CHANGE IN SELF-CONCEPT AS A FUNCTION OF DISSONANT ROLE-PLAYING

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CHAPTER I

INTRODUCTION

According to cognitive dissonance theory (Festinger, 1957), it should be possible to effect a change in attitudes toward oneself under certain conditions involving dissonance between two sets of cognitions about oneself. Given these conditions, the theory further specifies the direction and relative degree of change. After reviewing relevant concepts of self, cognitive dissonance theory and attitude change, together with a brief review of the pertinent literature, a role-playing technique will be described as a proposed method of inducing cognitive dissonance. Following this, specific hypotheses will be derived from the theory. In the next chapter, a research design and elaborated role-playing procedure will be described to test these hypotheses.

The Self-concept

Like the proverbial pie, the self, depending upon the personality theorist, may be sliced in many different ways and presented in a variety of shapes and sizes. Allport (1943), in his defense of the self as a concept that merited research and investigation, describes the eight major ways the self has been conceptualized: (1) as knower, (2) as object of knowledge, (3) as primodial selfishness, (4) as dominator, (5) as a passive organizer and rationalizer, (6) as fighter for ends, (7) as one segregated behavior system among others, (8) as a subjective

patterning of cultural values. Hall and Lindzey (1957) reduce these conceptualizations to two categories - self-as-object and/or self-as-process. For the purposes of this research, the self and more specifically the self-concept will be defined in terms of the self-as-object: a hypothetical construct which represents a person's attitudes, feelings, perceptions, and evaluations of himself.

This definition finds considerable theoretical and empirical support in the work of most of the investigators who have viewed the self as a product of the interaction of the individual with his environment. The young infant does not initially differentiate himself as a separate object from the many objects within his surroundings - he fails to distinguish the self from the non-self (Krech, Crutchfield, and Ballachey, 1962). Mead (1934) stresses that as the infant interacts with others he begins to experience them as objects though he does not initially regard himself as an object. However, other people react to him as a social object and in experiencing these reactions he learns to think of himself as an object and to introject the attitudes and feelings regarding himself which others maintain - "He becomes a self insofar as he can take the attitude of another and act toward himself as others act." Cooley (1902) previously emphasized this type of genesis of the self in coining the term "the looking glass self" which referred to the emergence of the self-concept as a function of the infant's perception of and identification with the attitudes and evaluations which were held by others toward him. Sullivan (1953) developed a similar conception of self stemming from the "reflected appraisals of others." Murphy (1947) concludes that in the first few years of life the self becomes a dominant perceptual figure around which the child's perceptions and activities

tend to become organized and he begins to understand the differentiation involved in the use of such verbal symbols as "me," "my," "mine," "myself," and "I."

Rogers (1951) describes the same process when he states that a portion of the total perceptual field, the set of experiences that have the same referent - the "I" or the "me" - gradually becomes differentiated as the phenomenal self. These experiences become invested with positive and negative value (I like it, I don't like it) as the person introjects the values of others while perceiving them as if they had been experienced directly as his own.

Chein (1944), Sarbin (1952), Sherif and Cantril (1947), and Symonds (1951), are other theorists who point to attitudes which arise from the interaction of the individual with his environment as a major component of the self.

In this research the definition given by Crech et al. (1962) for attitudes which we hold toward various objects in our environment is being extended to apply to the attitudes a person holds toward himself as an object. They define an attitude in terms of three mutually-dependent components: the cognitive component which includes factual information and evaluative beliefs, the feeling component which refers to the emotions connected with the object and the action tendency component which has to do with the behavioral readiness to act congruently with the emotion component. These three become organized into systems called attitudes.

Thus, self-referent attitudes refer to the organized systems of these three mutually interdependent components. However, all of the major investigators referred to above stress that these self-referent attitudes do not originate in the individual. Snygg and Combs (1949)

illustrate this position by pointing out that the family members provide the child with his earliest and most permanent self-definitions by their direct verbalization and actions. It is in this context that he has his earliest experience of personal adequacy or inadequacy and acceptance or rejection. These internalized attitudes toward himself, that both precede and are reinforced concurrently with those experiences in which the individual is personally reality-testing his value and capacity, greatly influence the interpretative perceptions of these testing experiences.

In summary, cognitions about the self-as-object, evaluations of the self-as-object, feelings regarding the self-as-object and action tendencies appropriate to these cognitions, evaluations, and feelings - in short, attitudes - are the basic elements in the structure and organization of the self. There are other aspects of the self: wants, goals, desires, motives, etc.; but self-referent attitudes from the earliest stages of development are synonymous with what is being described when the term "self" is used.

If the self can be conceptualized as a constellation of attitudes, then the research methods whereby attitudes are modified should be relevant to the question of modifying self-concept. Attitudes towards oneself as an object probably differ somewhat from attitudes held about objects external to oneself especially in their intensity and resistance to change. However, at this point there is no intrinsic reason to expect them to be so different or resistive to change as to make inappropriate the use of conditions indicated by research in the area of attitudinal change for investigating the modifiability of self-concept.

Cognitive Dissonance

The theory of cognitive dissonance as presented by Festinger (1957), Festinger and Bramel (1962), and Brehm and Cohen (1962), has been utilized in studying a broad range of phenomena, such as attitude change, decisional processes, social interaction, and mass behavior. According to Festinger, cognitive dissonance is a psychological tension having motivational characteristics. The units of the theory are cognitive elements and the relation between them. A cognitive element or a cognition is something a person knows about himself, his feelings, his behavior, or conditions in his environment. The relationship that exists between two or more cognitions is consonant if one implies or is consistent with the others. Dissonance is said to exist when two cognitions occurring together are inconsistent with each other according to the expectation of the person. If a person thinks of himself as a shrewd businessman and buys an item at a bargain price, the two cognitions, A, "I am shrewd," and B, "I got a bargain," are consonant. But if he learns that someone else got the same article for an even lower price, this cognition becomes dissonant with both cognitions A and B and he is motivated to reduce the tension by either admitting he is not as shrewd as he thought he was, or the salesman is a crook, or the second party is even shrewder than he is. Some feeling, evaluation, attitude, or cognition is modified so as to make the relevant cognitions more consonant. Thus, the central hypothesis of the theory is that the presence of dissonance gives rise to pressure or motivation to reduce that dissonance and that the strength of this motivation is a direct function of the magnitude of the existing dissonance. The magnitude of dissonance is partly a function of the importance of that cognition and

the one with which it is dissonant, and of the ratio of dissonant to consonant cognitions where each cognition is weighted for its importance to the person. Thus, dissonance increases as the number and/or importance of dissonant cognitions increases relative to the number and/or importance of consonant cognitions and decreases as that ratio is reversed.

A hypothetical example illustrates these principle factors of the theory. A man has decided to purchase a station wagon rather than a sedan after carefully considering all the pros and cons of each in view of his own needs and values. All the positive aspects of the station wagon and negative aspects of the sedan are consonant with the cognition of buying the station wagon. There are, however, the knowledges of the negative aspects of the station wagon and favorable aspects of the sedan. Any of these latter cognitions would have been consonant with purchasing the sedan rather than the station wagon and if the person holds any of these cognitions he will experience dissonance consequent to choosing the station wagon. But the amount of dissonance experienced by the person depends on the ratio of dissonant to consonant elements where each element is weighted according to its importance to him. He may try to reduce the dissonance by modifying his own attitudes in the direction of now devaluing the favorable aspects of the sedan and increasing the value of the unfavorable aspects of the station wagon or he may seek to discover even more advantages in owning a station wagon and disadvantages in owning a sedan. He may even try to gain social support from others by trying to convince others that station wagons are better than sedans. He will certainly begin to notice how many more station wagons there are on the road and how all the more substantial people own a station wagon.

Cognitive Dissonance and Attitude Change

Thus, within the framework of cognitive dissonance theory the conditions necessary for modification of attitudes are specifically delineated and attitude change becomes predictable. Whenever a person engages in a behavior that his attitudes would lead him not to engage in, he will experience dissonance and will attempt to eliminate or reduce it. He may first attempt to justify the behavior - i.e., increase the number of cognitions related to the attitude-discrepant behavior that are consonant with other values or attitudes. Failing this, he will modify his attitude in the direction of being one which more nearly leads to and is more consistent with the discrepant behavior.

Several studies illustrate those conditions under which a change in attitude may be effected. Brehm and Cohen (1962) offered 30 Yale students either $.50, $1.00, $5.00, or $10.00 to write an essay against their private negative view on a current issue on campus. There had been a student riot at Yale with resulting accusations of police brutality toward the students. Each S was asked to write an essay in favor of the actions of the police. Under the guise that the E was doing research on the kinds of arguments people would bring up in their essays if they were defending a position different from their own attitudes, he offered to pay them for their essays. All groups (reward groups) were told that the decision to write the essay was entirely their own choice though they were informed that the E did need their help as he was a student and this was part of his research paper. Immediately after the essays were completed, post-measures were administered to determine post-attitudes toward the police action and the degree to which the Ss felt their arguments were supportive of the police action. All groups

felt that their essays were very supportive of the police action. However, the data on attitude change were entirely consistent with the hypothesis that dissonance with consequent attitude change varies inversely with the amount of incentive for taking a stand discrepant with one's cognitions: as the reward decreased, attitudes toward the police became more positive. Thus, when there was little justification (reward) for the discrepant behavior (defending police) to which the individual had chosen to commit himself, dissonance was reduced by modifying the attitude with which the chosen behavior was discrepant.

Davis and Jones (1960) induced dissonance by having college students make derogatory remarks (prepared statements) to a (non-existent) person who was presumably a student being evaluated on several personality dimensions. Some Ss were given the opportunity to refuse to read the negative evaluations and some were not given an opportunity to refuse. All Ss gave their own personal ratings of the person before and after reading the prepared negative evaluation. It was predicted that dissonance engendered by the choice to rate a person negatively would tend to be reduced by negative shifts in real evaluations of the person. Some of the Ss in each of the choice conditions were told that they would be unable to inform the target person of the false nature of their evaluation; others were led to believe that they would have an opportunity to confront the target person and could dispel any belief he might have in their derogatory remarks. In this study the possibility of disclaiming the discrepant factor appeared to be the main independent variable. The predicted negative shift in real evaluations was observed in Ss who had chosen to read the derogatory remarks and who were not going to have an opportunity to neutralize their

discrepant behavior. Davis and Jones conclude that when Ss have committed themselves to discrepant behavior, the consequences of which they will have no opportunity to disqualify, then dissonance is reduced by changing attitudes in the direction of the discrepant behavior.

The Importance of Commitment and Volition in Attitude Change

The role of commitment is crucial to the arousal of dissonance and in predicting how dissonance will be reduced.

> A person is committed when he has decided to do or not do a certain thing, when he has chosen one (or more) alternatives and thereby rejected one (or more) alternatives, when he actively engages in a given behavior or has engaged in a given behavior. Any one or a combination of these behaviors can be considered a commitment (Brehm and Cohen, 1962, p. 7).

A commitment implies a specification of those cognitive elements that are consonant with each other and those cognitive elements that are dissonant with each other. If an adolescent decides to smoke, his knowledge that this will make him more acceptable to a group whose acceptance he values will be consonant with his decision to smoke. But hiw knowledge that his parents will disapprove and that their approval is very important to him will be dissonant with his decision to smoke. However, in simply "knowing" both these facts without the commitment, the decision to smoke or not smoke, the various cognitions concerning the social benefits and liabilities involved in smoking may have no power at all to arouse dissonance.

When a person experiences dissonance, he will tend to change those cognitive elements that are least resistive to change. The act of deciding upon a course of action, especially if this decision is a public one, increases the resistance to change of those cognitions associated with this act. Once the act of deciding has been performed it is

difficult to deny its reality. Likewise, when the behavior that follows from the decision is entered into, there are additional cognitions that are difficult to deny and thus resistive to change. The deed is done. The concept of commitment as presented by Brehm and Cohen (1962), which connotes acts of deciding and acts of actualizing decisions, specifies the possible directions of dissonance reduction. For instance, in a situation where a person commits himself to behavior that is discrepant with his own attitudes or values, dissonance is aroused in connection with this commitment. Either a number of cognitions that have to do with justifying the discrepant behavior will be marshalled, thus increasing the ratio of consonant to dissonant cognitions or the attitudes and/or values to which the behavior is discrepant will be modified in the direction of the behavior - or possibly both means of dissonance reduction will be utilized, but each to varying degrees. If conditions can be controlled so as to make justifying the discrepant behavior a more difficult alternative, then change in attitude can be anticipated.

The role of commitment, then, is first to aid in specifying the psychological implication of what is consonant and what is dissonant, and, second, to aid in specifying the ways in which a person may try to reduce dissonance.

Arousal of dissonance is unequivocal in situations involving choice of one from multiple alternatives, or the decision to participate in behavior that is discrepant with one's attitudes or values. This is true for two reasons: first, such decisions imply a commitment that cannot be denied; and, second, they involve some degree of volition. Like commitment, volition is also crucial to the theory of cognitive dissonance.

> The degree of volition in any choice is the extent to which a person feels that he controls his own behavior. Volition implies not only initiation and selection of behavior but also responsibility for its consequences. Thus, the ability of a cognitive inconsistency to arouse dissonance would be a function of the degree to which volition is involved in the occurrence of that inconsistency. If the individual felt that the occurrence of the inconsistent or unpleasant event was a consequence of his own volition, then it would arouse dissonance. Thus when a person gets himself into a situation and therefore feels responsible for its consequences, inconsistent information should, no matter how it comes about, arouse dissonance. Again, where a large degree of volition is involved in performing attitude discrepant behavior, it is more difficult to justify the behavior, consequently the attitude is often modified as a method of dissonance reduction (Brehm and Cohen, 1962, p. 202).

In studying the importance of volition in the arousal of dissonance, Cohen, Terry, and Jones (1959) compared the consequent attitude change following exposure to counter propaganda by chance and following exposure to counter propaganda by choice. Their study demonstrated that under conditions of high volition (exposure by choice), Ss' attitudes changed more the greater the discrepancy between the information and their initial opinion. Under conditions of low volition (exposure by chance), Ss' attitudes changed less the greater the discrepancy between the information and their initial opinion. The more extreme a person is in his own opinion the more he may be expected to resist counter arguments. However, when a person has chosen to expose himself to the counter communication, dissonance is produced between his cognitions (initial opinion) and his behavior (choice of listening to discrepant information). Volition makes him responsible for the behavior, which reduces the extent to which he can justify it, and increases the likelihood that he will reduce the dissonance by modifying his attitudes in the direction of the counter propaganda.

Related to the importance of volition is the observation that the magnitude of dissonance from engaging in unpleasant behavior decreases as the attempt to coerce or force the choice increases, whether the inducing force is positive (level of reward) or negative (level of punishment). Hence, the greater the coercion in obtaining compliance, the less is the magnitude of dissonance and the less is the amount of consequent evaluative change toward the unpleasant behavior. The greater the amount of coercive force, the more consonant the discrepant behavior becomes with the cognition of strong coercion and therefore the more easily is the discrepant behavior justified. Also, there is a subjective experience of volition which generally varies inversely with the amount of external force that obtains compliance. In the study in which Brehm and Cohen (1962) offered varying amounts of payment - $.50 to $10.00 - to students for writing essays expressing an opinion opposite to their own private one, their response to a question regarding how much choice they felt they had in refusing to write the essay indicated that their perceived volition decreased with the increase of inducing force.

The relationship between amount of inducement and attitude change was demonstrated by Brehm and Crocker (in Brehm and Cohen, 1962) in a study in which Ss underwent food deprivation from one evening to the following afternoon at the end of which time their subjective feelings of hunger were measured. Specimens of food were out in open view. Then part of the Ss were offered $5.00 to continue their fast until 9:00 PM. The rest were simply asked to volunteer to continue fasting until 9:00 PM. Once they made their decision the level of hunger feelings were measured again, and they were asked to indicate how many items of food

present they wanted at the end of the evening fast. As predicted, those who volunteered had less awareness of hunger in the post-decision measurement, and asked for fewer food items for the evening meal. The reduction of subjective feeling of hunger is interpreted as an attempt to reduce the dissonance created by voluntarily commiting themselves to go without food even though they were very hungry.

In summary, the conditions which cognitive dissonance theory assumes to be sufficient to alter attitudes are as follows: (1) induce the S to perform some behavior (verbal or otherwise) which is discrepant with his attitudes (behavior than would follow only from the obverse of the attitude); (2) the inducement of the S must be such that he has little justification for his discrepant behavior; i.e., there must be little or no reward nor perceived coercion; (3) the conditions should be such that the S perceives that he has on his own volition chosen to perform the behavior; (4) and finally, where applicable the consequences of the discrepant behavior should be fairly irrevocable. Brehm and Cohen (1962) assert that the rationale for these conditions being sufficient for affecting a change in attitude is the basis for much of the power and versatility of the dissonance formulation; namely, a person will try to justify a commitment to the extent that there is information discrepant with that commitment. Thus, when a person has committed himself to an act which would only follow from the obverse of his own attitudes, he experiences a need to justify that act. If he cannot find enough cognitions that are consonant with the act to reduce the dissonance, then the only alternative way of reducing it is to shift his attitudes into a more consonant relationship with the behavior. The volition of the individual in deciding to perform this act is crucial to this formulation.

Modifying Self-concept

Having reviewed the basis for conceptualizing the self as a set of self-referent attitudes and having considered the conditions whereby cognitive dissonance theory would predict attitude change, it now remains to suggest an experimental design wherein self-concept may be modified as a function of effecting the above-mentioned conditions. By selecting an instrument that attempts to measure the attitudes an individual holds toward himself and using its scores as a measure of the self-concept, one should be working most directly with that part of the self to which cognitive dissonance theory is most relevant. Ss with self-concept scores which are below the mean of their reference group may be defined as having relatively negative self-concepts. Ss with self-concept scores which are above the mean may be defined as having relatively positive self-concepts. It is assumed that the more negatively a person describes himself on a self-concept scale, the more discrepant will a commitment be to saying positive things about himself. The obverse of this is true for the person who describes himself on a self-concept scale in highly positive terms and who chooses to characterize himself in terms of negative traits and failures.

To effect a shift in attitude then, take a group of Ss who have low self-concept scores and induce each S to make very positive statements regarding himself under such controlled conditions that he cannot justify such discrepant behavior on the basis of reward, coercion, or denial of the relevancy of such behavior. The more true these statements are of the S the less he will be able to deny their relevancy and the more he will need to justify his act of making them. Provided that the individual has chosen to perform this behavior, the most accessible

alternative whereby he can justify it is to shift his own attitudes in the direction of the discrepant positive statements so that the statements follow more consistently from the S's own attitudes toward himself. A post-measurement of self-attitudes should result in the observation of a significantly higher self-concept score. One would predict the opposite effect for a group of Ss with high self-concept scores who were induced to say very negative but true things about themselves.

Role-playing

One of the most frequently used methods of getting Ss to participate in behavior discrepant with their own attitudes has been a type of role-playing where the S is asked to write an essay defending a position known to be opposite to his own attitudes. This was the approach effectively used in the Brehm and Cohen (1962) study in which students were offered varying levels of monetary reward for writing an essay defending the action of the Yale campus police. The E acknowledged that he knew this was opposite to the S's feelings but pointed out the need for studying the kinds of arguments people will use when defending a position to which they are personally opposed.

A similar technique is to have Ss defend a position contrary to their own while playing the role of a debater or proponent of that position. Janis and King (1954) had one group of Ss read as earnestly as they could a prepared speech which presented a view opposite to their own. In a later study (1956) they had Ss read a speech silently and then immediately present it with as much improvisation as possible. Cohen and Latane (in Brehm and Cohen, 1962) had Yale students who were against compulsory religious courses play the role of being in favor of them by giving a completely impromptu speech in defense of that position.

They were told that their speeches were going to be reviewed by an important Alumni committee which was deliberating on making recommendations regarding this issue. In each of these studies, attitude change in the direction of the position taken while role-playing was observed. It is a procedure which apparently makes it easier for the S to behave in a discrepant manner while being realistic and relevant enough in terms of actual behavior that dissonance is aroused.

Such a technique could be utilized with Ss with low self-concepts. They could be instructed to play the role of someone, perhaps a close friend, who is trying to encourage them by pointing out to them all their positive qualities and accomplishments. While playing this role they would write down all the positive things they know to be true about themselves to which a friend might refer in trying to be supportive.

Likewise, Ss with high self-concepts could be instructed to play the role of someone who is criticizing them by pointing out their negative traits and mistakes. While playing this role they would write down all the negative things they know to be true about themselves to which a critical person might refer in trying to be condemnatory.

Hypotheses

Assuming that Ss in each of these groups - low and high self-concepts - could genuinely become involved and invested in such a role-playing task, and by controlling for those conditions which would be so consonant with such behavior that the Ss could justify the discrepant behavior, then cognitive dissonance theory would lead to the following hypotheses: that Ss with low self-concept scores prior to the positive role-playing experience would on a post-role-playing measurement of self-concept shift their scores in a positive direction; and that Ss

with high self-concept scores prior to the negative role-playing experience would on a post-role-playing measurement of self-concept shift their scores in a negative direction.

However, in order to be more conclusive in affirming that the predicted shift in score will be a function of reducing dissonance, Ss at both levels of self-concept score should participate in both types of role-playing, positive and negative. That is, a group os Ss with high self-concept scores should also play the role of someone who is saying positive things about them and a group of Ss with low self-concept scores should play the role of someone who is saying negative things about them.

Cognitive dissonance theory would predict no change in score for Ss in these two groups because their role-playing behavior would be more consonant with their self-attitudes than it would be dissonant. They should experience no more than a minimal level of dissonance and little or no change in score.

Therefore, if change in score is directly a function of dissonance reduction, the greater amount of change should occur in Ss who play positive roles but who have low scores and in Ss who play negative roles but who have high scores. These Ss should demonstrate an amount of change that is significantly larger than that observed in Ss in the other level of self-concept score who play the same role.

CHAPTER II

METHOD

Subjects

Two hundred and sixty-six University of Florida undergraduate male and female students enrolled in a General Psychology and a Personality Development course took two administrations of a Self-concept Scale one week apart and received experimental credit toward satisfying a course requirement that they serve as research subjects. Following the first administration of the scale, 138 of these students volunteered to remain

Table 1

Comparison of Volunteer and Non-volunteer Subjects*

	Male			Female		
	N	Mean Age	SD	N	Mean Age	SD
Volunteer	64	20.47	2.02	74	19.62	1.49
Non-volunteer	64	20.48	2.00	64	19.42	1.75
	Total					
	N	Mean Age	SD			
Volunteer	138	20.01	1.80			
Non-volunteer	128	19.95	1.98			

* These two groups do not differ significantly in regards to age, distribution by sex, or N.

and serve as Ss in a role-playing experiment for no additional credit, while the other 128 refused to remain. As indicated in Table 1, these two groups did not differ significantly in regards to age, distribution by sex, or in respect to N. Nor did they differ with respect to mean pretest score (Volunteers, 71.92; Non-volunteers, 72.50).

For reasons which will be discussed later this research was mainly concerned with the performance of the volunteer Ss. Therefore, in order to obtain an adequate volunteer N, experimental sessions were held during each of the three 1964 trimesters. Table 2 presents a breakdown by session of the number of Ss involved and the ratio of volunteers to non-volunteers.

Table 2

Dates of the Initial Self-concept Scale Administration and the Respective Numbers of Subjects Present and Who Volunteered or Refused to Volunteer to Serve in the Role-playing Experiment

1964	Total	Volunteers	Non-volunteers
March 16	60	26	34
March 17	28	8	20
March 18	64	29	35
March 30	14	4	10
March 31	20	8	12
May 11	22	20	2
May 12	9	9	0
September 28	20	11	9
October 7	16	14	2
October 12	23	12	11
Total	276	141	135
Loss of subjects*	10	3	7
Total	266	138	128

* Ten subjects, seven non-volunteers and three volunteers, did not return for the second posttest the following week. Their scores on the pretest were not used. One volunteer subject was in the Supporter group and the other two were in the Observer group.

The 138 volunteer Ss were randomly assigned to a control group (Observers) and two experimental groups (Supporters and Agreers). Using the mean of the self-concept scores for the total 266 Ss (Total Sample Pool Mean), each of these groups was divided into Ss above the mean called "High" and Ss below the mean called "Low." The total number of Ss in each subgroup is indicated in Table 3.

Table 3

Subjects in Each Treatment Group Who Were Above (High) or Below (Low) the Total Sample Pool Mean

Groups	High	Low	Total
Supporter	36	22	58
Agreer	22	19	41
Observer	19	20	39
Total			138

Instruments

Tennessee Department of Mental Health Self-concept Scale.

This Self-concept Scale (SCS), which was developed by Fitts (1965), is composed of ten lie scale statements taken from the MMPI Lie Scale and 45 positive and 45 negative self-referent statements. The person is instructed to respond to each statement by indicating on a five-point scale how true or false it is of him. His answers are scored along two separate dimensions yielding scores for eight different sub-scales and totaling to one net self-concept score. In this present study, responses were recorded on an IBM answer sheet of the type that

provides for five alternatives per answer and only the net self-concept score was utilized. Fitts reports a reliability coefficient of .92 for this net score based on a two-week test-retest plan for 60 psychology students using the Pearson Product-moment correlation. Reliability coefficients for the subscales and a detailed description of the SCS are presented in Appendix A. Validity studies are reported in the test manual (Fitts, 1965).

This instrument (Appendix B), with the item sequence modified somewhat,* was used in obtaining self-concept scores immediately prior to the experimental treatments of role-playing, immediately after the treatments, and one week later. The volunteer Ss participated in all three SCS administrations while the non-volunteer Ss only participated in the first and last administrations.

Role-playing Test (RPT). This instrument, consisting of 20 negative statements, was constructed by the writer to facilitate the experimental treatments of role-playing in a group setting. The 20 stimulus statements are a refinement of an original list of 40 and represent those that elicited the most involvement in role-playing. The first page of the RPT is a form for collecting data on the S as well as indicating to him whether he is in the Supporter or Agreer group. The second page is the instruction page which was read orally by the E (Appendix C). The last five pages contain the 20 negative stimulus statements with ample space for each written response (Appendix D).

Ss were asked to pretend that these were statements which they

* A modification in item sequence was effected in order to facilitate a more rapid scoring procedure and to break up groupings of statements which were all scored on a given subscale. Since this score is also administered in card form in which the statements are shuffled before each administration, the modification of sequence in this study was not expected to effect the reported reliability.

had made about themselves. Then each S in the Supporter group was instructed to play the role of a friendly person who was trying to convince him that he was not as bad as the negative statement implied. While playing this role he wrote down sincere references to his positive qualities and achievements to which a person might refer in trying to encourage him.

Each S in the Agreer group was instructed to play the role of a critical person who was agreeing with him that he really was as bad as the negative stimulus statement indicated. While playing this role he wrote down sincere references to his negative traits and failures to which a person might refer in trying to be critical of him.

Following the reading of each negative statement by the E, the Ss in both experimental groups were given two minutes in which to write down their role-playing responses. Two minutes each for the 20 items gave a total of 40 minutes of role-playing.

16 MM sound films. Three films requiring a total running time of 40 minutes were viewed by the Ss in the Observer group while the two experimental groups were role-playing. "Handling Laboratory Animals" demonstrated the proper handling and care of small animals used in scientific experiments. "Controlling Behavior through Reinforcement," and "Reinforcement in Learning and Extinction," were both devoted to a very basic consideration of operant conditioning with chickens. It was not anticipated that any of these films would be enhancing or threatening to the Ss' feelings about themselves and therefore would not influence any change in self-concept score.

Design

The sequence of the three SCS administrations with the role-playing treatment following immediately after the first administration was presented to the Ss as two unrelated research activities being directed by two different Es. Figure 1 schematically represents the total experimental design.

With a colleague as the E, the SCS pretest and final SCS posttest were described as a standardization study of a new self-description scale requiring two separate administrations one week apart. This so-called standardization study was presented to psychology students as one of the experiments in which they could participate to satisfy their course requirement in respect to research. The first administration (the pretest) was scheduled for a two-hour period and gave two hours of experimental credit. The final posttest, one week later, was scheduled for one-half hour and offered one hour of credit for a total of three hours. However, no credit was to be given unless the S attended both of the SCS administrations.

Immediately following the SCS pretest, the writer as E, presented the experimental treatment of role-playing and the first SCS posttest as a separate research project (though at the time, Ss were not told that after the role-playing the SCS would be administered again).

Though the pretest was scheduled for two hours, it actually required less than one-half hour, leaving one and a half hours free time at the disposal of the Ss. As the Ss were completing their performance within the first 25 minutes with the colleague as the E, the writer entered the room with two assistants and a stack of testing materials. It was explained to the Ss that the two hours were scheduled for the

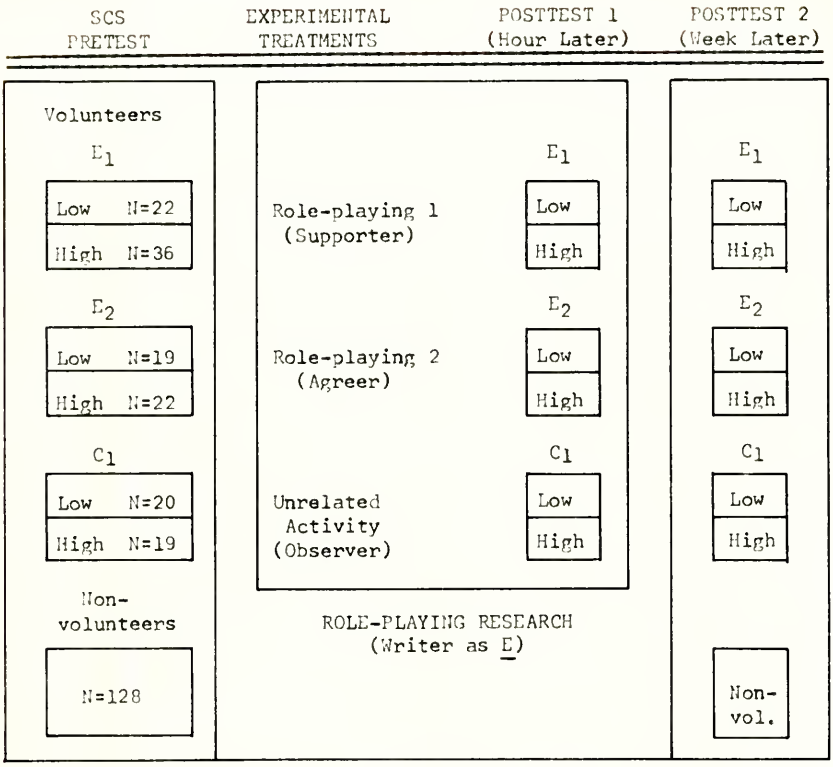

Figure 1. Diagram of the Experimental Design.

administration of the SCS so they would be available for participating in another research project which would last about an hour and which required that the Ss be willing to volunteer to serve at the expense of giving up something. They were assured that they would get the two hours of experimental credit they expected whether they participated in this additional research or took advantage of the one and a half hours of free time that was now theirs. The opportunity was then offered to them to give up an hour of their free time in order to serve as Ss in research in which they were not required to participate.

Getting Ss to volunteer for the role-playing task was important so that they would experience a personal commitment to the task. This was done in order to minimize the possibility of dissonance reduction on the grounds that they were earning two hours of experimental credit.

Each S was given his experimental credit card before he began the first administration of the SCS, with the colleague's name and 120 minutes of research time already noted on the card. This was to assure him of his two hours credit regardless of his decision to leave or volunteer for the role-playing research.

In an attempt to further emphasize that the two research projects were not directly related, legal-sized paper was used for all test forms related to the role-playing phase while regular-sized paper and a different style of type were used in the standardization phase. Also in the standardization study, special IBM pencils were used, whereas in the role-playing and first posttest either pencil or pen was acceptable.

Those Ss who volunteered were randomly assigned to the three treatment groups: Supporters, Agreers, and Observers. The Ss in the Supporter group wrote positive things about themselves; the Ss in the

Agreer group wrote negative things about themselves; while the Observer group viewed 40 minutes of film. Then all three groups were combined again and took the first SCS posttest. This first posttest provided the scores for testing for change in self-concept due to experimental treatment.

Randomization of the Ss into the three groups was effected in the following manner. Ten copies of test materials for each of the three groups were numbered from 1-30 with test materials for one group numbered 1-10, another group 11-20, etc. Each of the three groups was given four two-digit numbers. By referring to a table of random numbers, the order in which each group came in the sequence of first, second, and third was determined. This sequence was redetermined for each set of 30 copies of test materials. (The single sheet which designated Ss as Observers was used for this group's test materials, Appendix C). By again referring to a table of random numbers, the 30 copies of numbered test materials were randomized. Every 30 copies was thus randomized.

In this randomized order they were passed out to the Ss from left to right and from one row to the last row. Separate sets were used for males and females. Though no effort was made to maintain an equal number of both sexes in the subject N, female Ss were seated on the right side and male Ss on the left side so that later, when each side received the randomized set of test materials, the sexes would be proportionately distributed.

This randomization process was not adhered to in the September 28 and October 7 experimental sessions (Table 2). At that time the N for the Low Supporter subgroup was only twelve. The usual procedure and

instructions were maintained in these two sessions up to the point of distributing the randomized test materials. At that time all the volunteer Ss were assigned to the Supporter group. In the next and final experimental session on October 12, all the volunteer Ss were assigned to the Agreer and Observer groups.

Two different assistants took care of the Observer group, reading their instructions and operating the projector. Several other individuals assisted in passing out test materials for those appointments where there were large groups of Ss. However, the same colleague served as the E for all sessions of the "standardization study."

Procedure

At the beginning of each of the SCS pretest administrations, the colleague introduced himself and his standardization study in the following manner:

> My name is Mr._____. The research I am carrying on is part of a larger standardization study of a new self-description scale. Presently I am collecting normative data on college age students which requires that this scale be administered twice to the same group. You will take it for the first time tonight and again a week from tonight. But remember you will not get your two hours credit for tonight unless you return next week for the final half-hour session. Then you will receive a total of three hours credit.

He then read the SCS instructions (Appendix B) and began the administration. Twenty minutes later the writer entered the room with testing material and two assistants. When the administration was completed and the tests taken up, the colleague explained:

> Though you are getting two hours of experimental credit for tonight, actually this is all the time I need for my research purposes. Next week's administration will be just as short and easily completed. I'm sure you are wondering why you were scheduled for two hours research time if I only needed you for one-half hour. I'll let Mr._____, who just came in, explain this. While he's explaining, I'll get my things together and go.

I will see all of you next week. Don't forget to bring your cards so I can make them valid by signing them twice.

The writer then explained his presence and the reason why they had been informed that the standardization study would require two hours.

I am doing research in the area of role-playing. At this point I cannot explain why, but the research requires that I have subjects who have been willing to volunteer at the expense of giving up something. So I needed a situation in which there was a large group of Ss, who had to make their decision to volunteer right on the spot, who had to give up something to do it, and who had the time available.

So this is the way I set it up: I asked Mr._____ to schedule the first administration of his test for two hours instead of the 30 minutes he needed and to guarantee everyone two hours credit. This was cleared with the Psychology Department and is legitimate, so you have the experimental credit you expected and an hour and a half of time which you did not expect. Then I come in and ask you to give up approximately an hour of it in order to serve voluntarily in this research in role-playing. Now you've got a decision to make. But before you make it let me tell you more specifically about my research because I not only need volunteers but Ss who have an idea of what they are getting themselves into.

This research involves writing your reactions to 20 statements. It is a study of different kinds of role-playing. You will be divided into three groups called Supporters, Agreers, and Observers. Those in the Observer group will go to another room with one of my assistants and there play their role as observers. The rest of you will remain here and will write your reactions to 20 negative statements, statements which you are pretending to have made about yourself.

But you will respond while playing the role of another person. If you are in the Supporter group, you will play the role of a person who is trying to encourage you by reminding you of your good qualities and you will write these down. If you are in the Agreer group, you will respond by playing the role of a person who is trying to criticize you and agree with the negative statement by reminding you of your weak points. And you will write these down.

This stack of research material for the three groups is in a random order and is to be passed out to those who stay. Right now I don't know which group any of you will be in. The front page of the test material you get will designate the group you are in.

Now, if you are willing to give up an hour of your free time and volunteer to serve as a S in this research in role-playing, please raise your hand, keep it up please.* The rest

---

* The writer pretended to be counting the hands. This period of having their hands up was expected to strengthen their sense of decision and commitment as well as offer an opportunity for some undecided Ss to identify with those who were indicating their decision to stay.

of you may take the advantage of your extra time and leave now.

At this point the E paused and allowed those to leave who wished to do so. The randomized RPT materials were passed out to those who remained and the following instructions were given:

> Please read the top page of the material given you. It will tell you what group you are in. Now all who are in the Observer group, please go with my assistant. All who are in the Supporter group, please find a seat on the left side of the room if you are not already there. And all in the Agreer group please find seats on the right side of the room. While all these changes are being made, write down the information requested on the front page, your name, age, sex, classification, student number and birth order, and then be glancing over the 20 negative statements. Disregard the instructions on the second page until I tell you to turn to them.

When all the changes had been made, the E stood in front of the Supporter group and read their instructions. Then he did the same in front of the Agreer group. This sequence was altered in each successive experimental session. By physically separating the Ss into their respective groups, it was easier to address the instructions to each group and reduce the possibility of confusion. The instructions for each of the two experimental groups were as follows (Appendix C):

SUPPORTER

> This is a study of role-playing. First, pretend that you have made these statements about yourself. It may be that you have actually expressed such feelings on one occasion or the other as many people have.
>
> Second, pretend to take the role of someone, maybe a close friend, who is trying to convince you that you are not really that bad or that hopeless. Respond to each of these statements in the role of this encouraging person by writing honest and sincere replies that mention your good traits, your positive qualities, your accomplishments, and your successes. Essentially I want you to tell yourself about yourself but I want you to do it in the role of someone who is supporting you by reminding you of your good traits and achievements.
>
> Here is an illustration. Statement: "I give up too easily." Encouraging response: "If you gave up too easily you wouldn't have gotten to date that girl you wanted to for so long and people wouldn't depend on you the way they do. You couldn't have

brought that C in Biology up to a B, if you gave up too easily."

Briefly, then, the sequence is as follows: first, assume you have made the negative statement. Second, mentally step outside yourself and assume the role of an understanding person who is trying to encourage you by reminding you of your specific good characteristics and accomplishments. Third, write down as many convincing facts as you can. Be specific in referring to things that are true about yourself.

AGREER

This is a study in role-playing. First, pretend that you have made these statements about yourself. It may be that you have actually expressed such feelings on one occasion or the other as many people have.

Second, now pretend to take the role of someone, a critical person, who is agreeing with you that you really are as bad or hopeless as the statement indicates. Respond to each of these statements in the role of this critical person by writing honest and sincere replies that mention your weaknesses, your negative qualities, your failures, and your mistakes. Essentially, I want you to tell yourself about yourself but I want you to do it in the role of a critical person who is reminding you of your bad points and failures.

Here is an illustration: Statement: "I am afraid of what other people think of me." Agreeing response: "You should be because you have certainly been selfish at times and have acted like you knew it all. And another thing, remember when you didn't do your share of the work because you didn't have any sense of responsibility?"

Briefly, then, the sequence is as follows: First, assume you have made the negative statement. Second, mentally step outside yourself and assume the role of a critical person who is agreeing with you by reminding you of your specific negative qualities and mistakes. Third, write down as many convincing facts as you can.

TO BOTH GROUPS

I shall read each statement, and give you two minutes in which to write your response below the written form. Please write until asked to stop. I will give you a ten-second warning in which time try to complete the sentence you are writing. If you have not finished when I announce that the time is up, please stop writing, and give your attention to the next statement as I read it. The main thing is to write down as many facts about yourself as you can in an understandable form with little regard to proper sentence construction and spelling. This is not a test of those two skills. Use the back side of the page if you need additional space.

Following the reading of the instructions, any questions regarding the role-playing were briefly answered. Then the 20 negative statements

of the RPT were each read orally by the E followed by a two-minute response time per statement. Following statements 1, 4, 8, 12, and 16, there was a one-minute break during which time additional illustrations of the two kinds of role-playing responses were read as a means of reinforcing the concepts of the two roles. (See Appendix E for this time sequence and illustrations read.) During these breaks any additional questions were answered and Ss were encouraged to try not to repeat themselves and they were cautioned against merely giving advice in their responses. Agreers were especially cautioned against the impulse to end some of the critical responses with some expression of encouragement. Ss were frequently reminded that they should refer to events and characteristics that were true of themselves.

While the Supporter and Agreer groups were taking the RPT, the Observer group was watching 40 minutes of movies. When they first entered the new room they were instructed to fill out the information form on the sheet that designated them as Observers - name, age, etc. (Appendix C). Following the completing of this form, the assistant gave them these instructions:

> Your part in this research is to play the role of an Observer. You will view 40 minutes of film following which you will return to the other room and participate as one group again in the last role-playing phase of this research. Regardless of the nature of the films or the level of interest they may have for you, try to play well your role as an Observer.

After the RPT was completed by the two experimental groups, the Observer group returned to the main body of Ss and the SCS was again administered to all Ss with the following instructions:

> Print your name, student number and the date on the answer sheet. Some of you have been describing only the positive or the negative aspects of yourselves. Now as a final part of this study of different kinds of role-playing, I want each of you to respond to these 100 statements in the role of a self-describing person by responding to each statement just as you

> feel about yourself right now, whether it is positive or negative. You may be tempted to hurriedly respond, but you still have plenty of time, so try to respond carefully, playing the role of a person who is describing himself to himself.

All Ss were asked to remain until everyone had completed this second administration of the SCS and the forms were taken up. The E then thanked them and requested that they not talk about this research while other appointments were being held so as not to prejudice or bias any other student who might be involved as a S in a later appointment.

One week later, the colleague met again with these Ss, along with those who did not volunteer to stay, and administered the SCS for the last time, explaining:

> In the final administration of this self-description scale, respond according to the way you feel about yourself right now. Put your Experimental Credit Cards on your desk. As you are taking the test I will come by and sign your card the second time. You will get an hours credit for a half hours work, so you need not rush. No one is going to show up tonight to try to get you to volunteer for more research; so you can relax and enjoy the self-description scale.

Rating of Verbal Responses

It was assumed that relatively more dissonance would be experienced in those Ss who had low self-concept scores and who admitted to positive qualities, and likewise for Ss with high self-concept scores who admitted to negative qualities. However, a more objective index of discrepant behavior than the act of writing down statements was needed. Therefore, the verbal responses of both experimental groups were rated for the degree to which they were either positive or negative.

The major criterion for determining degree of positiveness or negativeness was the specificity with which reference was made to actual traits, qualities, characteristics, habits, accomplishments, failures, etc.

A three-point scale of specificity was developed for each experimental group. In the case of the Supporter Ss, those responses that made specific reference to a positive personality trait, characteristic, quality, accomplishment, or achievement were given a rating of "1," which was at the "most positive" end of the scale. Those responses which made only a general reference to the items mentioned above were given a rating of "2." A rating of "3" was given to all responses that failed to meet either of the criteria for the other two ratings. Statements involving advice-giving, "you are not as bad as" type of comparisons, and vague explanations for why a person might say the stimulus statement, are illustrative of this category which represents the "least positive" end of the scale. It was not anticipated that responses of this calibre would be very productive of dissonance in a S with a low self-concept score.

In the case of the Agreer Ss, those responses that made specific reference to a weakness, negative personality trait, a failure, mistake, or bad habit were given a rating of "3," which was at the "most negative" end of the scale. Those responses which only made a general reference to the qualities mentioned above were given a rating of "2." A rating of "1" was given to all responses that failed to meet either of the criteria for the other two ratings. Statements involving advice-giving, commands, or affirmation of the validity of the negative stimulus statement without reference to any negative quality, are illustrative of this category which represents the "least negative" end of the scale for Ag Agreers.

Ten graduate students in clinical psychology served as judges, five of whom rated the verbal responses of all the Supporter Ss and

five of whom rated the responses of all the Agreer Ss. Their set of instructions (Appendix F) included sample responses that were illustrative of the three different categories. Judges of Supporter responses were instructed to give the total response only one rating and to rate in the direction of "1." That is, if there was any mention of a specific trait or accomplishment, regardless of what else was written, the total response was to be given a rating of "1." If there were no specific references that would justify a rating of "1," then they were to look for any instance in which the criterion for a rating of "2" was used and so on. Judges of the Agreer responses were to rate in the direction of "3" with similar instructions provided (Appendix F).

The writer conducted an orientation for each set of judges and provided them with printed instructions and illustrations of the rating criteria. Each judge worked on a set of approximately ten protocols at a time which distributed the judging task over a period of three weeks. Initially, all judges in each group worked on the same set of six protocols. This was done in order to confine to the same set of protocols any differences between judges which might be due to their becoming familiar with the rating criteria. Thereafter, no particular sequence was followed; i.e., one judge might be rating the second set while another was rating the third set and another the fourth set, etc.

Ratings by each judge were recorded on a form separate from the RPT so that no ratings were recorded on the protocols themselves, and there was no collaboration between judges. Each S received 20 ratings from each of the five judges. These 100 ratings were averaged providing a RPT mean rating for each S in the Supporter and Agreer groups. The percentage of agreement of each judges' rating with the modal rating

for that statement was derived. These twenty percentages were averaged to obtain an index of agreement between judges. (See Appendix G for sample of the judge's rating form and the scoring form on which the ratings from the five judges were analyzed.)

Predictions

The first two predictions were related to the difference between subgroups with regard to their change score from the SCS pretest to the first posttest. The third prediction was related to the difference between the performance of subgroups on the pretest and the second posttest. The fourth and fifth predictions were related to the relationship between the degree of positiveness or negativeness in the verbal responses of Ss and the amount of their increase or decrease respectively from the pretest to the first posttest. The five predictions were as follows:

1. The Low Supporter group's increase in score from pretest to first posttest will be greater than that of the High Supporter group.

2. The High Agreer group's decrease in score from pretest to first posttest will be greater than that of the Low Agreer group.

3. The second posttest performance of the Low Supporter and High Agreer Ss will not differ from their pretest performance.

4. Within the Low Supporter group the level of positiveness in verbal responses will be positively related to the amount of increase in self-concept score on the first posttest.

5. Within the High Agreer group the level of negativeness in the verbal responses will be positively related to the amount of decrease in self-concept score on the first posttest.

Analysis

The major focus of this study was the differential response of subgroups to treatment. On the basis of cognitive dissonance theory it was anticipated that the Ss in the Supporter group whose SCS pretest scores were below the mean would experience more dissonance as a function of playing a supportive role than Ss whose self-concept scores were above the mean.

By means of the experimental design an attempt was made to set up the modification of self-attitudes as the most accessible means of reducing dissonance. It was assumed that any change in self-attitude would be reflected in a change in SCS score. It was predicted that the Low Supporter Ss would show a greater increase in first posttest score than would the High Supporter Ss.

Likewise, Agreer Ss with self-concept scores above the mean were expected to experience greater dissonance as a function of playing a criticizing role than Ss with self-concept scores below the mean. It was predicted that the High Agreer Ss would show a greater decrease in self-concept score on the first posttest than would the Low Agreer Ss.

The role-playing of the High Supporter Ss and the Low Agreer Ss was not considered to be discrepant with their self-attitudes and therefore dissonance arousal would be minimal and significant change in their self-concept scores was not expected. Also, as a control group, the activity of the Low and High Observer Ss was not considered to be discrepant with their self-attitudes and therefore significant change in their self-concept scores was not expected.

Predictions one and two regarding the differential behavior of subgroups could have been tested by determining the significance of the

treatment by level interaction of change scores from pretest to first posttest and a test of the significance of the interaction between test and level for each treatment group where the pretest and first posttest scores were considered. Thus the analysis of variance of these scores would have been the appropriate statistical method for treating the data except for two conditions present in the experimental design of this study which made an alternative method more appropriate.

First, after Ss were randomly assigned to one of the three treatment groups, they were then assigned to one of the levels within that treatment group on the basis of their pretest scores. This procedure resulted in an unequal number of Ss in the treatment subgroups. In the analysis of variance of the test data, only tests of significance of main effects can be gotten free of bias or distortion due to disproportional frequencies (Yates, 1934), whereas, one of the most crucial tests in this study involved an interaction.

Secondly, any analysis of variance in which level was used as one of the sources of variability would lead to complications because level is a function of or is derived from the pretest score. Level is in fact the pretest score on a much coarser or less precise scale than the actual pretest scores. Thus the use of level as an accountable source of variability in SCS scores might produce anomalous results.

The alternative method of analysis in which disproportionate subgroup frequencies would not present the difficulties they do in the analysis of variance was a regression analysis (Fisher, 1958) in which the regression of first posttest scores on pretest scores for each of the three treatment groups was determined. Such an analysis would indicate: if the Low Supporter and High Supporter Ss reacted differentially to the act

of positive role-playing; if the Low Agreer Ss and High Agreer Ss reacted differentially to the act of negative role-playing; and if the Low and High Observer Ss reacted similarly to the act of observing movies which were unrelated to self-attitudes.

Let x stand for pretest score and y for first posttest score, then the equation of the linear relation of first posttest score to pretest score will be of the form $y = a + bx$. The b which is commonly called the slope, is the rate of change in first posttest score per unit change in pretest score. The a in this equation, which is commonly called the intercept, is a function of the mean of y and of the mean of x.

If the rate of change is constant, within the bounds of random sampling, throughout the range of pretest scores from lowest to highest levels, the regression is linear and the above equation will suffice. However, if the change in first posttest score per unit change in pretest score departs significantly from constant, as would be the case if low and high Ss reacted differentially on the first posttest, then the relation is non-linear and a non-linear regression equation must be fitted to the data in order to reflect properly the behavior of the first posttest scores in relation to the pretest scores.

With regard to treating the data by the classification of Low and High (levels) in the regression analysis actual pretest scores would be used in order to retain as much precision as possible and because the mean may not be the breaking point in case the stated predictions regarding levels were correct. In summary, a regression analysis would permit the data itself to indicate the presence or absence of a treatment by level interaction and the point at which this differential behavior began within the treatment group. Therefore a regression analysis

of the pretest and first posttest scores was used as a test of predictions one and two with a .05 level of significance being required.

The predicted change on the first posttest for the Low Supporters and High Agreers was expected to dissipate in the absence of additional reinforcement of the treatment condition so that the performance of these two subgroups on the second posttest was expected to be similar to their pretest performance. For reasons which will be given in the next chapter this third prediction was not tested. The data for both levels in each treatment group were combined and the significance of group comparisons was tested by means of an analysis of variance of the pretest and second posttest scores in which level was not a variable and an adjustment was made for disproportionate frequencies. The .01 level of significance was required.

The more positive Low Supporter Ss were in their verbal responses, the more dissonance they should have experienced and thus the greater the increase in change score from pretest to the first posttest. The same relationship was expected between the degree of negativeness in the responses of the High Agreer Ss and the amount of decrease in self-concept score. However, predictions four and five were not tested. Instead, the data for both levels in each treatment group were combined and a test of the above relationship was made on the group performance by means of deriving correlation coefficients.

CHAPTER III

RESULTS

The first question to be answered by means of a regression analysis was concerning the linearity or non-linearity of the regression lines of first posttest scores on pretest scores for the three treatment groups. If the data substantiated the predictions concerning the effect of treatment in the Supporter and Agreer groups, then the regressions would be non-linear though of a distinctly different sort in the two groups. In the Supporter group, the rate of change of the first posttest scores would be greater for the lower pretest scores than for the higher and in the Agreer group the rate of change of the first posttest scores would be greater for the higher pretest scores. But in the Observer group, the rate of change would not vary significantly from constant so that a first degree regression equation would suffice.

Letting $\underline{x}$ stand for pretest score and $\underline{y}$ for first posttest score the prediction for each of the treatment groups is that there is no significant linear regression of $\underline{y}$ on $\underline{x}$. The probability that this prediction is correct is determined by comparing the two variances shown in Table 4. The source of variance designated "regression" is that portion of the variance in $\underline{y}$ accounted for by its linear regression on $\underline{x}$. The source of variance designated "deviation" is that portion of the variance in $\underline{y}$ that is not accounted for by its linear regression on $\underline{x}$. If this

Table 4

Significance Tests of the Linearity of Regression of First Posttest Scores on Pretest Scores for Three Treatment Groups

SUPPORTER

Source	D/F	Sum of Squares	Mean Square	F	P
Regression	1	52782.09	52782.09	555.81	.001
Deviation	56	5318.02	94.96		
Total	57	58101.11			

AGREER

Source	D/F	Sum of Squares	Mean Square	F	P
Regression	1	29959.83	29959.83	68.02	.001
Deviation	39	17178.27	440.47		
Total	40	47138.10			

OBSERVER

Source	D/F	Sum of Squares	Mean Squares	F	P
Regression	1	44291.57	44291.57	500.94	.001
Deviation	37	3271.41	88.42		
Total	38	47562.98			

comparison results in a probability which is greater than .05 the prediction is retained and the interpretation is that there is no significant linear regression. However, if the probability is as small as .05, the prediction is rejected and the interpretation is that there is a significant linear regression of y on x.

Table 3 presents the tests of significance for linearity. The probability level in each of the three tests reaches .001. The interpretation of these results is that the regressions for all three treatment groups did not depart from linearity. The relationship of the first posttest scores to the pretest scores is a linear one along the entire range of pretest scores.

The lack of significant relationship between amount of change in self-concept score and pretest level is further indicated by the absence of any correlation between these two variables: Supporters -.11, Agreers -.14, and Observers .27. The fact that these correlation coefficients are small and are not statistically significant precludes any interpretation of their meaning except to stress that the relationship between pretest score and degree of change on the first posttest is not a consistent one. A greater amount of change is not more characteristic at one level than at the other.

In Figure 2 the solid line reflects a condition in which the change in y per unit change in x is constant for all levels and equal to 1. It may be observed that the regression line for each group is nearly parallel to the solid line indicating that Ss at every level of pretest score for a given group tended to be similar to each other in their first posttest behavior. A comparison of the slopes of these three regression lines with that of the solid line by means of t tests indicated that they did

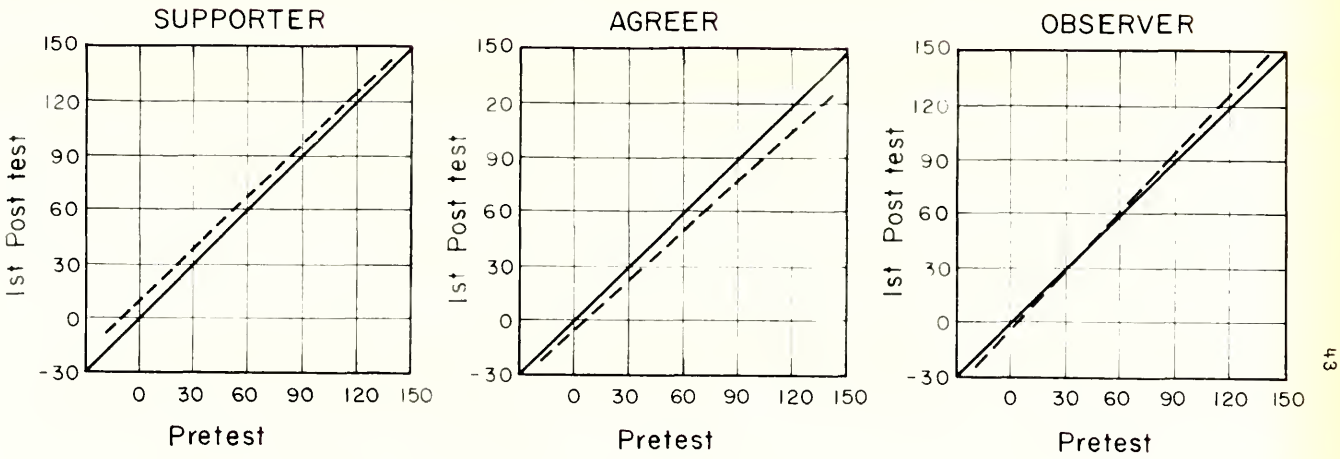

Figure 2. Regression of First Posttest on Pretest Self-concept Scores for Three Treatment Groups.

not depart significantly from parallelism.

Table 5 reflects the lack of difference between levels in terms of the mean change score for the two levels within each group and the difference between these mean change scores. The mean increase for Low Supporters (7.41) and for High Supporters (4.56) represents a difference between them of only 2.85 while the mean decrease in score for High Agreers (-13.95) and Low Agreers (-6.63) represents a difference in mean change of 7.32. Likewise, the High Observer group (6.63) increased 5.08 mean score points more than did the Low Observers (1.55).

Table 5

Mean Change Score from Pretest to First Posttest for Two Levels Within Three Treatment Groups

	Low SCS Scores		High SCS Scores		
	N	Mean	N	Mean	Difference
Supporter	22	7.41	36	4.56	2.85
Agreer	19	-6.63	22	-13.95	7.32
Observer	20	1.55	19	6.63	5.08

The similarity in performance on all three tests by the High and Low Ss in each group is graphically represented in Figure 3, where it may be noted that the trends for both levels within each treatment group are almost parallel.

The conclusion that was drawn from this regression analysis regarding the performance of the two levels of Ss within each treatment

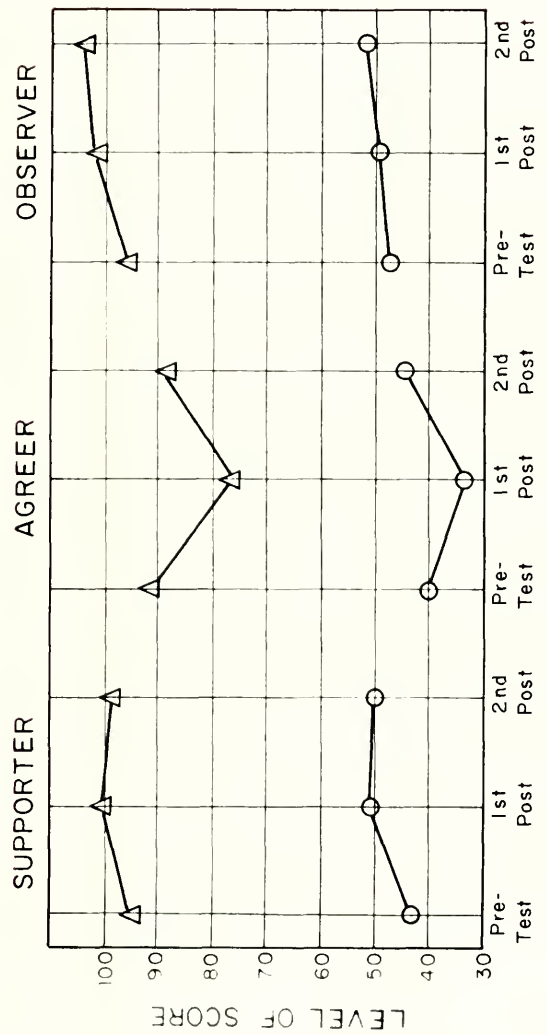

Figure 3. Mean Level of Performance Presented in a Group by Level by Test Interaction

group was that though they differ with respect to pretest level of self-concept score, they do not differ with respect to amount and rate of change on the first posttest. In whatever manner they did differ in reaction to the experimental treatment this difference was not reflected in their performance on the first posttest.

Therefore, predictions one and two were not confirmed. The data indicate that the within-group behavior is similar at both levels and therefore meaningful comparisons should be made between entire treatment groups rather than between subgroups. However, whatever the results of such comparisons might be, they do not indicate anything regarding the theory of cognitive dissonance since on the basis of dissonance theory one would not have made predictions about the behavior of the total group but rather, as was done, predictions would have been made regarding subgroup performance.

In light of the results of the regression analysis, it was no longer appropriate to treat the data by subgroup level when comparing pretest and first posttest performances. Therefore, predictions four and five were no longer appropriate predictions, that is, it was no longer meaningful to make such comparisons between test performance at a subgroup level in that with respect to the theory from which the predictions were generated, the results of such comparisons would be ambiguous.

Even though the results of comparisons between total treatment groups do not indicate anything regarding the theory of cognitive dissonance, such comparisons are of empirical interest. Therefore, in Appendix H the reader will find a detailed presentation of the correlation between level of positiveness in the verbal responses of the Supporter Ss and the amount of increase in their change score and the correlation

between level of negativeness in the verbal responses of the Agreer Ss and the amount of decrease in their change score. In both cases the correlation coefficients were extremely small and non-significant. The method and results of testing for interjudge reliability is also presented in Appendix H. There was high level of agreement among judges in their ratings of the positiveness or negativeness of verbal responses which reduced the probability that the reported lack of relationship between mean rating and amount of change was due to lack of agreement among judges.

Comparisons between group performance on test administrations is also of empirical interest although the results are not meaningfully related to the basic concerns of this research. In Appendix I a summary table of analysis of variance is presented along with a brief explanation and interpretation of the main effects. This is an analysis of the scores of the three treatment groups for all three test administrations with subgroup level no longer considered as a source of variability. The only remaining defect in the use of the method of analysis of variance is that tests of significance for interactions represent only close approximations (Brandt, 1963) since they are not free of distortions due to disproportionate frequencies. Therefore, unless the tests of significance for interactions reached the .01 level they were not accepted as significant. Only two of the main effects were significant while not one of the interactions was significant.

Prediction three was a prediction that second posttest performance of the Low Supporter and High Agreer Ss would not differ from their respective pretest performances. This prediction was not tested. Since the Low Supporter Ss did not behave differently than the High Supporter Ss

in the amount of change in score from pretest to first posttest and since there was no reason to then expect them to behave differently from each other on the second posttest, the two groups were combined and a test was made for the total Supporter group on the difference between pretest and second posttest. The same procedure was carried out for the Agreer group. As reported in Appendix I each group did not differ in its pretest and second posttest performance.

Summary of Results

Ss with low pretest self-concept scores and Ss with high pretest self-concept scores did not react differently to the experimental treatments. Low Supporters and High Supporters both increased in first posttest score at a similar rate. Low Agreers and High Agreers both decreased in first posttest score at a similar rate. Predictions one and two were not confirmed.

Since subgroups did not react differently to the treatment conditions, predictions three, four, and five were not tested directly. The data for subgroups were combined and comparisons were made between treatment groups. Since the results of such comparisons were not relevant to cognitive dissonance formulations, they are presented in the appendix.

CHAPTER IV

DISCUSSION

The results failed to verify the two main predictions based on cognitive dissonance theory. With regard to the pretest to first post-test change score, Low Supporters did not react to the experimental treatment any differently than High Supporters. High Agreers did not react differently from Low Agreers.

The fact that the predictions generated from the theory of cognitive dissonance were not confirmed raises several important questions. Does this failure reflect some inadequacy on the part of the theory to explain human behavior or did the experimenter fail to effect the conditions which according to the theory, are sufficient to modify attitudes? There were four such conditions. A discussion of the effectiveness of the experimental design in realizing each of these conditions follows.

Discrepant Behavior

The first condition was to induce the S to perform some verbal behavior which was discrepant with his attitudes (behavior that would follow consistently only from the obverse of his attitudes). It was assumed that the act of making positive self-references would be discrepant behavior for Ss with self-concept scores below the mean but would not be discrepant for Ss whose scores were above the mean. The obverse was assumed regarding the act of making negative self-references. The

concept "discrepant behavior" in this context actually implies two assumptions: with respect to Ss who score below the mean on the SCS, the first assumption is that they do not generally say positive things about themselves, and secondly, to do so would produce dissonance; and with respect to Ss who score above the mean, the first assumption is that they do not generally say negative things about themselves, and secondly, to do so would produce dissonance.

If these two assumptions are not true, then it is possible that the reason the predicted results did not occur was because cognitive dissonance was simply not aroused. Since these assumptions were not verified prior to this study, the point cannot be argued further and until they are verified, these assumptions confound the meaningfulness of the results. It cannot be stated with certainty that the first sufficient condition, that of "discrepant behavior," for modifying attitudes was effected. Therefore, the theory of cognitive dissonance remains relatively intact in spite of the statistical results which failed to confirm the several predictions which this theory generated.

The two assumptions involved in the concept "discrepant behavior" could be tested. In so doing, one might develop criteria for selecting Ss that would be more relevant and would possess more specificity than SCS scores. Such a development would also remove the difficulty encountered in this study when SCS pretest scores were used for two purposes: criterion for assignment to level and base for determining amount of change score.

A study could be designed in which Ss were asked questions to which they were free to answer spontaneously with either positive or negative self-references. An index of the ratio of the number of

positive to negative statements over a given length of time could be determined for each S. As a matter of throwing some light upon the results of the present study, the relationship between such an index and level of SCS score could be determined. This would answer the question of whether Ss with low self-concept scores do not characteristically make positive self-references, etc.

A second phase of such a proposed study would be to determine whether or not Ss feel uncomfortable when they make positive self-references if they have a small index for this type of behavior and to determine if the converse is true for Ss who have a small index for saying negative things about themselves. This could be determined by permitting Ss to chose the type of role-playing they preferred. On the basis of the pleasure principle, one would predict that Ss with high indexes for admitting positive qualities would select the Supporter role while Ss who generally said negative things about themselves would select the Agreer role. Or, a more conclusive method might be to permit Ss to experience both types of role-playing and then to indicate the type of role-playing experience they enjoyed the most and felt most comfortable doing. Again the predictions would be the same. However, the latter method would involve the use of actual conscious reactions to the different roles while the former would be based on the anticipations the Ss had regarding either role.

A second question related to whether or not dissonance was generated by the present experimental design has to do with the types of role-playing which were used as the treatment conditions. Once criteria have been determined for selecting Ss who do experience a psychological discomfort from the act of making positive or negative self-references,

then an answer to this particular question can be forthcoming. The question is whether or not playing the role of someone else who is making statements which are discrepant with one's own self-attitudes is productive of dissonance. Perhaps playing the role of oneself in a situation in which he is having to defend himself against someone he dislikes and who is criticizing him would be a more dissonance-arousing experience. Or an E might simply approach Ss on the basis of being interested in what people say about themselves when they can only say positive things or when they can only say negative things.

In conclusion, little can be said to affirm that the first condition was effected since several untested assumptions were involved. However, suggestions have been given regarding how these assumptions might be tested. Such a study would result in some support or criticism of the present design, but more importantly, it would provide a more crucial test of the adequacy of the dissonance theory to generate testable predictions relevant to modifying self-concept.

Regarding the present design and collected data, one might expect that using the upper and lower half of the range of pretest scores would result in the inclusion of too many Ss in both levels whose scores are so close to the mean that they probably had no strong reactions to their respective experimental treatments. However, the Ss within the Supporter and Agreer groups were divided into thirds, and the performance of the lower one-third compared with the lower half and the upper one-third compared with the upper half. There was no significant difference in their mean change scores. Nor were the mean change scores for the lower one-third and upper one-third in each of these groups significantly different.

No Justification

The second condition specified by dissonance theory was that the inducement of the S to participate in the research had to be such that he had little justification for his discrepant behavior, i.e., there had to be little or no reward nor perceived coercion. If the S felt he was receiving adequate pay for performing the discrepant behavior, or that he was forced to participate against his will, then he was in a position to justify the behavior and thereby reduce the supposed dissonance. If he could not justify his behavior, he was more likely to modify his self-attitudes in the direction of the behavior.

In the present study if might be contended that the Ss volunteered to participate in the role-playing experiment because they knew they were going to get credit for the additional time required whether they participated or not. Some Ss may have felt obligated to do so. Others may have felt that since they were getting credit for the time they might just as well volunteer. Still others may have been suspicious that if they did not volunteer then the credit might somehow be taken away from them. Volunteering because of more personal values may have been very rewarding to others, e.g., interest in research, curiosity, desire to help the experimenter, etc. And any number of additional rationalizations might have been utilized as a means of justifying their participation in the discrepant behavior. Indeed one might make the observation that in the face of almost 50 percent of the students not volunteering to participate, those who did decide to remain were highly motivated for one or more reasons and that this motivation might be seen by the Ss as a justifiable reason for behaving in a discrepant manner.

Since no information regarding their reasons for volunteering was

collected from the Ss, the opinion that the volunteer Ss did not feel either greatly influenced or well rewarded cannot be directly defended. However, in numerous studies reported in the literature in which the results verified the hypotheses generated from dissonance formulations, the same methods for getting Ss to volunteer were employed. In some of these studies experimental credit was even given as a means of motivating Ss to "volunteer." There is no reason to expect that the motivation referred to above served to reduce the dissonance of the Ss in this study, but did not do so in other reported studies.

Originally, the writer decided against any attempt to collect information regarding the motivation of the volunteering Ss. Questionnaires designed to accomplish this purpose often suggest to the S what he is supposed to feel or be motivated by. Also, in view of the several administrations of the SCS and the forty minutes of writing verbal responses, it was anticipated that one more scale might have collected more data about hostility and frustration than motives for volunteering. But to have begun the Role Playing Test with the following statement, "Indicate the several reasons why you decided to participate in this study in role-playing and using a 10-point scale assign the relative weight each factor had in contributing to your decision," may have elicited a variety of unsuggested motivations with their perceived relative importance and at a time when the Ss were most consciously aware of them.

Volition

The third condition specified by dissonance theory was that the S should perceive that he had on his own volition chosen to perform the discrepant behavior. The matter of volition and choice are very important

to dissonance theory. An attempt was made to explain the role-playing activity. Ss knew that they would be randomly assigned to the groups. The only way they could be certain of not being assigned to a treatment they disliked was to get up and leave. Forty-nine percent of the students did choose to leave. Therefore, it strongly appears that those who stayed exercised personal choice in the matter. Again, Ss could have been questioned regarding the amount of personal choice they perceived they had exercised in volunteering. However, in a pilot study in which 99 percent of the Ss remained for the volunteer part, the majority of them felt that they had volunteered of their own free will.

Irrevocable Consequences

The fourth and final condition specified by dissonance theory as sufficient for modifying attitudes was that, where applicable, the consequences of the discrepant behavior should be fairly irrevocable. Ss were instructed to make true references with regard to traits they possessed and the quality of meaningful experiences. They were to be genuine, sincere, and specific in what they said. Reading through the verbal responses of all of the Ss, one gains the impression that the vast majority of the Ss succeeded in carrying out these instructions. The mean rating for the positiveness and negativeness of verbal responses reported in Chapter III indicated considerable involvement in the act of role-playing. This much of their behavior was irrevocable.

However, whether or not the act of simply writing these responses down was realistic enough to be perceived as discrepant behavior is a question the answer to which cannot be determined. There are studies in the literature which report significant results and in which the act of writing a verbal response is the extent of the role-playing. In most of

these studies there is considerably less writing than in the present study. One possible way of improving the present design would be to assign Ss to small groups following the completion of the RPT for the purpose of reading their responses to each other under the guise of rating the degree of involvement in role-playing. This should result in strengthening the irrevocableness of the behavior. But a more effective modification would be the use of actual role-playing, involving several trials of interpersonal interaction with an auxilliary ego.

Of the four conditions, the first two involved assumptions on which there is no data for determining if the assumptions were met. Therefore, the failure to achieve the predicted results may be a function of invalid assumptions or the difficulty in dissonance theory of generating testable predictions, or both. But on the basis of the present data the reason these predictions were not confirmed cannot be specified with certainty. However, suggestions are offered for studies which might be effective in providing additional empirical evidence for differentiating the reasons that the predictions of this study were not confirmed.

Another possibility for the failure of the data to confirm the predictions is that there may have been changes which were undetected by the SCS or unobserved by the E since no other data were collected. The SCS total score was used as the basic raw datum. However, this score is the sum of three row scores on one dimension of the instrument and is the sum of five column scores on another dimension of the instrument. The three rows have to do with levels of descriptions: Abstract, Satisfaction, and Functional. The five columns have to do with

significant areas of the individual's life and experience about which he is expected to have definite attitudes: Physical attributes, Moral-ethical values, Psychological qualities, Family relationships, and Secondary relationships. Meaningful inter-row and inter-column changes could have occurred which are unseen when only the total score is observed.

There may have been changes in response set with some Ss becoming more denying of positive statements and more accepting of negatively phrased statements and vice-versa. This may be a more meaningful way to look at the data rather than using the total score.

One of the criticisms (Chapanis and Chapanis, 1964) of the designs employed in cognitive dissonance research is that Ss are not asked regarding their conscious feelings of discomfort related to the experimental treatment. Instead, the presence of dissonance is always inferred from behavior that is interpreted to be attempts at dissonance reduction. Since dissonance is also described as psychological discomfort of which the individual is conscious, Chapanis and Chapanis recommend that Ss be questioned about their feelings. This failure happens to be one of the weaknesses of the design used in this study.

In each subgroup of all three treatment groups, Ss changed on their first posttest scores in both directions from the pretest scores. For example, in the Low Supporter group 16 Ss increased on the first posttest while six Ss decreased in score. It is not known if these two sets of Low Supporter Ss experienced the same or different feelings in response to the treatment. Likewise, in the Low Agreer group eight Ss increased while nine Ss decreased and two Ss maintained the same score. These Ss reacted differently in terms of test scores. Did they differ

as to what they felt about themselves? How is it that some Ss showed more positive self-attitudes after being critical of themselves while other Ss showed more negative feelings toward themselves? If they had been asked regarding their feelings, there might be some explanation for the observation referred to above. Indeed, if Ss differ in their reactions, it may be assumed that they differ either in their feelings or in the manner in which they deal with the same feeling.

Several recent studies have compared the efficacy of dissonance theory with that of other theories in explaining the results of research in which attitude change was attempted. Janis and Gilmore (1965) found that "incentive" theory accounted for the results of a role-playing study in which the observation was made that more attitude change occurred when overt role-playing was carried out under favorable sponsorship than under unfavorable sponsorship conditions. Dissonance theory would have predicted the opposite results.

According to incentive theory:

> When a person accepts the task of improvising arguments in favor of a point of view at variance with his own personal convictions, he becomes temporarily motivated to think up all the good arguments he can, and at the same time suppresses thoughts about the negative arguments . . . the "biased scanning" increases the salience of the positive arguments and therefore increases the chances of acceptance of the new attitude position. A gain in attitude change would not be expected, however, if resentment or other interfering affective reactions were aroused by negative incentives in the role-playing situation . . . Thus, incentive theory predicts that role-playing will be more successful in inducing attitude change if the sponsor is perceived as someone whose affiliations are benign in character and whose intentions are to promote public welfare (Janis and Gilmore, 1965, p. 17).

To some extent, the results of the present study may be explained by the incentive theory. The role-playing may have elicited more biased scanning and increased the salience of new incentives, thus increasing

the likelihood of attitude change. This would be more true for the Agreer Ss than for the Supporter Ss. The differential effect observed between the two groups may reflect the fact that in order for Ss to feel more positive toward themselves, more time in role-playing is required than is necessary in order to produce an increase in negative feelings.

Rosenberg (1965) failed to confirm Brehm and Cohen's (1962, p. 73-78) findings when he used almost identical procedures, but produced opposite results: the greater amount of attitude change occurred among role players who were paid the largest amount of money. He had one E administer the role-playing procedure and another E, who was completely independent of the former E, tested the Ss' final attitudes. In this respect, his study differed from Brehm and Cohen's and raised serious questions regarding the influence of evaluation apprehension and affect arousal within Ss as systematic, data-biasing contaminants which dissonance theory fails to take into consideration. Rosenberg concludes that the generality of dissonance is of somewhat smaller scope than its advocates have estimated and that certain kinds of attitude change are better accounted for by other theories.

Chapanis and Chapanis (1964) present a critique of all the major research generated by dissonance theory in which they make two general criticisms. First, the experimental manipulations involved in much of the dissonance research were usually so complex that crucial variables were confounded and other internal states were often produced which could contaminate or even account for the findings. Consequently, no valid conclusions could be drawn from the data. The second criticism was related to the number of serious fundamental methodological

inadequacies in both the experimental designs and the analysis of the results. They conclude that the theory is not upheld on the basis of all the available evidence.

The present study also raises a question regarding the adequacy of the theory for generating testable predictions. However, there are several basic assumptions involved in the design of the present study which must be demonstrated as valid before any definitive conclusions can be drawn from the findings of this study regarding cognitive dissonance theory.

CHAPTER V

SUMMARY

According to cognitive dissonance theory, it should be possible to effect a change in self-attitudes under certain conditions involving dissonance between two sets of cognitions about oneself. In the present study a design using role-playing as a means of inducing dissonance was employed to test predictions derived from this theory.

From an original pool of 266 Ss who took a self-concept scale, 138 volunteered to participate in a role-playing experiment: 58 of them (Supporters) played a role in which they said positive things about themselves, 41 of them (Agreers) played a role in which they said negative things about themselves, and 39 of them (Observers) watched movies while the other Ss were role-playing. Immediately following the role-playing all Ss took the same self-concept scale a second time, and also a third time one week later.

In each of the treatment groups, those Ss whose pretest scores were below the pretest mean of all Ss were designated as the Low group while those Ss whose scores were above that mean were designated as the High group. It was predicted that the Low Supporters would significantly increase in score on the first posttest as compared to the High Supporters and that the High Agreers would significantly decrease in score on the first posttest as compared to the Low Agreers. It was assumed that the role-playing behavior of these two subgroups, Low Supporters and High

Agreers, would be discrepant with their self-attitudes and that they would experience dissonance. Their change in self-concept score was to be the basis for inferring the presence and reduction of this dissonance.

This modification in self-attitude as inferred by change in self-concept score was not expected to persist without additional reinforcement and therefore it was predicted that on the second posttest the performance of these two subgroups would not be different from their pretest performance. It was also predicted that the degree of positiveness in the verbal statements of the Low Supporters would be positively related to the amount of increase in score while the degree of negativeness in the verbal responses of the High Agreers would be positively related to the amount of decrease in score.

By means of regression analysis, it was demonstrated that the two levels within each of the three treatment groups did not differ from each other in their first posttest performance. Therefore, all the predictions regarding the differential behavior of levels were rejected.

It can not be said with certainty that the failure of the results to confirm the predictions indicates an inadequacy of the dissonance theory to generate testable predictions. It was assumed that the act of positive role-playing would be discrepant behavior for Ss with low self-concept scores and that the act of negative role-playing would be discrepant behavior for Ss with high self-concept scores. If this assumption is a valid one, then the theory failed to generate testable predictions regarding the arousal and reduction of dissonance. However, until the validity of this assumption is tested the results of this study cannot be interpreted as failing to support the dissonance theory. A method for testing the validity of this basic assumption was proposed.

APPENDICES

APPENDIX A

TDMH Self-concept Scale

The present form of the TDMH Self-concept Scale represents an attempt to construct a readily applicable scale which would be simple enough in wording and mechanics to be used with practically all of the literate population; short enough so that the average person can complete the task in a few minutes; and yet subject to detailed breakdown and analysis for interpretive purposes.

The Scale

This scale has in general been developed according to the typical pattern for such scales, following the usual steps of: A. developing a large pool of self-descriptive statements, B. editing these items for duplications, confusion of wording, ambiguity, etc., C. classifying the items into a tentative theoretical schema, D. obtaining judgments by qualified judges as to the proper classification of each item in the theoretical schema, E. analyzing the data from the judges and selecting the items on which the judges agree as to classification, F. selecting the final items for the scale, and G. tryout of the scale with collection of preliminary reliability and validity data. The development of the scale has now progressed to stage G and is presented in the test manual recently published (1965).

The TDMH scale is an extension of Balester's (1956) idea of building into a self-concept scale certain categories of self-referent items which would yield a profile of scores in addition to the total score.

The schema which was developed for classifying the statements

represents an effort to subject the data to a more intensive quantitative analysis than is possible with self-concept scales which yield only a single, total score. Categories of self-descriptive statements were developed which were logically meaningful, mutually exclusive and subject to common interpretation by judges. Seven judges, psychologists and/or students who had concentrated on self-theory and problems involving the self-concept, selected the final items according to the classification schema. Only those items were used for which there was agreement by six out of seven judges as to the proper classification of the statement.

The large pool of self-descriptive statements were differentiated along one dimension of variation according to what the individual was saying about himself, and along a second dimension according to the frame of reference which the individual was using. With respect to the first dimension in which statements express some fact about the person, these statements were logically divided into three categories: Abstract-descriptions in which the individual is primarily describing what he is -- the traits and characteristics he observes as he "backs off and looks upon himself as a perceptual object"; References of Self-satisfaction in which the individual is describing how he feels in regards to what he is; and Functional Descriptions in which the individual is describing his behavior as he perceives it, thus describing what he is indirectly by saying what he does. These three categories represent the rows on the score sheet.

The second dimension along which the pool of self-descriptive statements were distributed was the frame of reference which the individual was using. Some of the statements referred to the self in a physical sense, while others were based on moral, psychological or social

referents. Five categories represent the major frames of reference into which the statements were divided along this dimension: Physical characteristics, moral-ethical characteristics, psychological characteristics, primary group membership, secondary group membership. These five categories represent the columns on the score sheet.

Thus there are two dimensions of categories which apply to all of the statements. Each statement in this scale falls within a definite category of one dimension and also in one of the categories of the other dimension. If the score sheet is thought of as a 3 x 5 table, each item of the scale falls within a certain cell of this table. Judgment as to the exact cell where each item belongs was the task of the seven judges who were used in developing the scale.

The statements also vary along a third dimension -- the positive negative continuum. The 90 items which constitute the scale contain 45 positive and 45 negative statements. This classification is based upon whether the statement is a "good" or "bad" thing to say about oneself -- whether it is psychologically desirable or undesirable to perceive oneself in this light. The seven judges agreed unanimously in classifying these statements as either positive or negative.

Score Sheet

The three row categories which constitute one dimension and the five column categories which constitute a second dimension are so arranged on the score sheet as to form a 3 x 5 table with 15 cells. Each cell contains six statements which come under the appropriate categories of both the vertical and horizontal axes: three of these statements are positive and three of them are negative. The S responds to each statement by indicating how true or false it is of him using a scale of 1 - 5

with "1" being completely false and "5" being completely true. The cell score is the result of subtracting the numerical values given to the negative statements from the values given to the positive statements.

Summing the cell scores across columns or down rows results in eight separate scores on the basis of which a profile can be plotted. Summing the marginal scores in either direction gives the total self-concept score which was utilized in the present research.

The ten Lie Scale items are scored separately and give an indication of the degree of defensiveness and amount of distortion present in the profile and total score.

Reliability

Fitts reports a reliability study based on a two-week test retest plan for 60 psychology students using the Pearson Product-moment correlation. He reports (below) reliability coefficients for the column and row

	Cell Scores					
	A	B	C	D	E	Row Scores**
1.	.88	.79	.77	.80	.85	.91
2.	.73	.49	.78	.86	.81	.88
3.	.82	.79	.80	.78	.79	.88
Column Scores*	.87	.80	.85	.89	.90	

L Score .75 Total Score .92

*A - Physical characteristics
B - Moral-ethical characteristics
C - Psychological characteristics
D - Primary group membership
E - Secondary group membership

** 1 - Abstract description
2 - Self description
3 - Functional description

scores ranging from .80 to .91, a coefficient of .92 for the total score, and coefficients ranging from .49 to .88 for cell scores.

APPENDIX B

Self-Concept Scale

DO NOT OPEN UNTIL TOLD TO DO SO

INSTRUCTIONS
(TDMHSCS)

The following 100 statements are to help you describe yourself as you see yourself. Read each statement and decide whether it is "completely true," "mostly true," "partly true & partly false," "mostly false," or "completely false," as applied to you. Please respond as if you were describing yourself to yourself.

Select the most appropriate answer of the five listed below and on the separate answer sheet blacken between the lines in the column headed by the number of the answer you have chosen.

Number -	1	2	3	4	5
Answers -	Completely false	Mostly false	Partly true & partly false	Mostly true	Completely true

Look at the example of the answer sheet shown at the right. If a statement is "mostly false" as applied to you, blacken between the lines in the column headed "2." (See A on the right.) If a statement is "completely true" as applied to you, blacken between the lines in the column headed "5." (See B at the right.) Do not omit any items.

	1	2	3	4	5
A		Π			
B					Π

In marking your answers on the answer sheet be sure the number of the statement agrees with the dark blue number on the answer sheet. Erase completely any answer you wish to change. Do not make any marks on this booklet.

Remember you are not trying to describe yourself as others see you, but only as you see yourself.

Number -	1	2	3	4	5
Answers -	Completely false	Mostly false	Partly true & partly false	Mostly true	Completely true

1. I don't always tell the truth.
2. I am a decent sort of person.
3. I am a cheerful person.
4. I am mad at the whole world.
5. I don't like everyone I know.
6. I am a moral failure.
7. I am a hateful person.
8. I am a friendly person.
9. I would rather win than lose in a game.
10. I have a healthy body.
11. I am satisfied with my moral behavior.
12. I should be more polite to others.
13. I am satisfied to be just what I am.
14. I don't feel as well as I should.
15. I wish I could be more trustworthy.
16. I am satisfied with my family relationships.
17. I am not the person I would like to be.
18. I am as sociable as I want to be.
19. I am neither too fat nor too thin.
20. I am too sensitive to things my family say.
21. I am true to my religion in my everyday life.
22. I do not feel at ease with other people.
23. I can always take care of myself in any situation.
24. I do poorly in sports and games.
25. I sometimes use unfair means to get ahead.

Number -	1	2	3	4	5
Answers -	Completely false	Mostly false	Partly true & partly false	Mostly true	Completely true

26. I try to play fair with my friends and family.

27. I change my mind a lot.

28. I take good care of myself physically.

29. I try to understand the other fellow's point of view.

30. I quarrel with my family.

31. I am full of aches and pains.

32. Once in a while I think of things too bad to talk about.

33. I have a lot of self-control.

34. I am not interested in what other people do.

35. I have a family that would always help me in any kind of trouble.

36. I gossip a little at times.

37. I am a nobody.

38. I am popular with women.

39. I am not loved by my family.

40. Once in a while I put off until tomorrow what I ought to do today.

41. I am as religious as I want to be.

42. I am no good at all from a social standpoint.

43. I am as smart as I want to be.

44. I would like to change some parts of my body.

45. I ought to go to church more.

46. I treat my parents as well as I should.

47. I despise myself.

48. I am satisfied with the way I treat other people.

49. I am neither too tall nor too short.

50. I should trust my family more.

Number -	1	2	3	4	5
Answers -	Completely false	Mostly false	Partly true & partly false	Mostly true	Completely true

51. I do what is right most of the time.

52. I do not forgive others easily.

53. I solve my problems quite easily.

54. I often act like I am "all thumbs."

55. I sometimes do very bad things.

56. I do my share of work at home.

57. I do things without thinking about them first.

58. I feel good most of the time.

59. I see good points in all the people I meet.

60. I give in to my parents.

61. I consider myself a sloppy person.

62. I am a religious person.

63. I get angry sometimes.

64. I am hard to be friendly with.

65. I am an important person to my family and friends.

66. I am a bad person.

67. Once in a while, I laugh at a dirty joke.

68. I am popular with men.

69. My friends have no confidence in me.

70. I like to look nice and neat all the time.

71. I am satisfied with my relationship to God.

72. I ought to get along better with other people.

73. I am just as nice as I should be.

74. I should have more sex appeal.

75. I shouldn't tell so many lies.

Number -	1	2	3	4	5
Answers -	Completely false	Mostly false	Partly true & partly false	Mostly true	Completely true

76. I understand my family as well as I should.

77. I wish I didn't give up as easily as I do.

78. I try to please others, but I don't overdo it.

79. I like my looks just the way they are.

80. I should love my family more.

81. I try to change when I know I'm doing things that are wrong.

82. I find it hard to talk with strangers.

83. I take the blame for things without getting mad.

84. I am a poor sleeper.

85. I have trouble doing the things that are right.

86. I take a real interest in my family.

87. I try to run away from my problems.

88. I try to be careful about my appearance.

89. I get along well with other people.

90. I do not act like my family thinks I should.

91. I am a sick person.

92. I am an honest person.

93. I am a calm and easy going person.

94. Sometimes, when I am not feeling well, I am cross.

95. I am a member of a happy family.

96. I am a morally weak person.

97. I am losing my mind.

98. At times I feel like swearing.

99. I feel that my family doesn't trust me.

100. I am an attractive person.

APPENDIX C

Role-Playing Test

(PLEASE PRINT)

NAME_____ STUDENT NO._____ SEX___
Last First Middle

CLASSIFICATION_____ AGE_____ BIRTH ORDER_____

SUPPORTER

You are in the group designated as "SUPPORTER."

I am now going to ask that all the OBSERVER group go with my assistant to another room; that all the SUPPORTER group find seats on the left side of the soom (your left as you face the front of the room) and that all the AGREER group find seats on the right side (your right) of the room.

While all of these rearrangements are going on, please fill in the information requested above and then glance over the list of 20 statements that follow.

Do not take time to read the instructions on the next page as I want to go over them with you after you have seen the statements.

SUPPORTER

(Instructions)

THIS IS A STUDY OF ROLE-PLAYING

First, pretend that you have made these statements about yourself. It may be that you have actually expressed such feelings on one occasion or the other as many people have.

Second, now pretend to take the role of someone, maybe a close friend, who is trying to convince you that you are not really that bad or that hopeless. Respond to each of these statements in the role of this encouraging person by writing honest and sincere replies that mention your good traits, your positive qualities, your accomplishments and your successes. Essentially, I want you to tell yourself about yourself but I want you to do it in the role of someone who is supporting you by reminding you of your good traits and achievements.

Illustration:

Statement: "I give up too easily."
Encouraging Response: "If you gave up too easily you wouldn't have gotten to date that girl you wanted to for so long and people wouldn't depend on you the way they do. You couldn't have brought that C in Biology up to a B, if you gave up too easily."

Briefly, then, the sequence is as follows:

First, assume you have made the negative statement.
Second, mentally step outside yourself and assume the role of an understanding person who is trying to encourage you by reminding you of your specific good characteristics and accomplishments.
Third, write down as many convincing facts as you can. Be specific in referring to things that are true about yourself.

I shall read each statement and give you two minutes in which to write your response below the written form. Please write until asked to stop. I will give you a ten-second warning in which time try to complete the sentence you are writing. If you have not finished when I announce that the time is up, please stop writing, and give your attention to the next statement as I read it.

The main thing is to write down as many facts about yourself as you can in an understandable form with little regard to proper sentence construction and spelling. This is not a test of those two skills. Use the back side of the page if you need additional space.

(PLEASE PRINT)

NAME_____ STUDENT NO._____ SEX_____
Last First Middle

CLASSIFICATION_____ AGE_____ BIRTH ORDER_____

AGREER

You are in the group designated as "AGREER."

I am now going to ask that all the OBSERVER group go with my assistant to another room; that all the SUPPORTER group find seats on the left side of the room (your left as you face the front of the room) and that all the AGREER group find seats on the right side (your right) of the room.

While all of these rearrangements are going on, please fill in the information requested above and then glance over the list of 20 statements that follow.

Do not take time to read the instructions on the next page as I want to go over them with you after you have seen the statements.

AGREER

(Instructions)

THIS IS A STUDY OF ROLE-PLAYING

First, pretend that you have made these statements about yourself. It may be that you have actually expressed such feelings on one occasion or the other as many people have.

Second, now pretend to take the role of someone, a critical person, who is agreeing with you that you really are as bad or hopeless as the statement indicates. Respond to each of these statements in the role of this critical person by writing honest and sincere replies that mention your weaknesses, your negative qualities, your failures, and your mistakes. Essentially, I want you to tell yourself about yourself but I want you to do it in the role of a critical person who is reminding you of your bad points and failures.

Illustration:

Statement: "I am afraid of what other people think of me."
Agreeing Response: "You should be because you have certainly been selfish at times and have acted like you knew it all. And another thing, remember when you didn't do your share of the work because you didn't have any sense of responsibility?"

Briefly, then, the sequence is as follows:
First, assume you have made the negative statement.
Second, mentally step outside yourself and assume the role of a critical person who is agreeing with you by reminding you of your specific negative qualities and mistakes.
Third, write down as many convincing facts as you can.

I shall read each statement, and give you two minutes in which to write your response below the written form. Please write until asked to stop. I will give you a ten-second warning in which time try to complete the sentence you are writing. If you have not finished when I announce that the time is up, please stop writing, and give your attention to the next statement as I read it.

The main thing is to write down as many facts about yourself as you can in an understandable form with little regard to proper sentence construction and spelling. This is not a test of those two skills. Use the back side of the page if you need additional space.

(PLEASE PRINT)

NAME_____ STUDENT NO._____ SEX____
Last First Middle

CLASSIFICATION_____ AGE_____ BIRTH ORDER____

OBSERVER

You are in the group designated as "OBSERVER."

Shortly you will be asked to go with my assistant to another room where you will be given additional information regarding this research and will function in your role as an OBSERVER. When you arrive in the other room please begin filling in the information requested above.

APPENDIX D

Statements in the Role-Playing Test

1. I can see good points in you but not in me.
2. There's not a damn thing that I can do well.
3. I am unhappy.
4. I've done very little to cause my parents to believe in my abilities.
5. I don't have any real reason to have any self-confidence.
6. If people really knew me they wouldn't like me.
7. I need someone else to push me through on things.
8. I am worthless.
9. I've given my friends no reason to have confidence in me.
10. I feel helpless and no good.
11. Already, I've made a mess of my life.
12. I wish I could regard myself as a worthwhile person.
13. I can't remember anything in which I have ever really been successful.
14. I haven't done anything to deserve the love of my parents.
15. I must be stupid.
16. I feel I don't have any likeable qualities.
17. I give up too easily.
18. I am hopeless.
19. Most of the time I just feel like a failure.
20. I just don't have any reason to respect myself.

APPENDIX E

Time Sequence for Administering the Role-Playing Test

Time Required	Activity
5'	Give initial instructions regarding role-playing task.
2'	Statement #1 and response time
1'	First rest - read an illustration of each role.*
2'	Statement #2 and response time
2'	Statement #3 and response time
2'	Statement #4 and response time
1'	Second rest - read an illustration of each role.
2'	Statement #5 and response time
2'	Statement #6 and response time
2'	Statement #7 and response time
2'	Statement #8 and response time
1'	Third rest - read an illustration of each role.
2'	Statement # 9 and response time
2'	Statement #10 and response time
2'	Statement #11 and response time
2'	Statement #12 and response time
1'	Fourth rest - read an illustration of each role.
2'	Statement #13 and response time
2'	Statement #14 and response time
2'	Statement #15 and response time
2'	Statement #16 and response time
1'	Fifth rest - read an illustration of each role.
2'	Statement #17 and response time
2'	Statement #18 and response time
2'	Statement #19 and response time
2'	Statement #20 and response time
50'	Total time required

* Illustrations which were read at each rest period follow on next page.

ILLUSTRATIONS TO BE READ DURING EACH REST PERIOD

First rest period

Statement: "No one can depend on me."

Supporter response:

"What about all your work on the Dollars for Scholars campaign and don't the pledges come to you with their problems in the sorority? Why do so many people tell you their problems?"

Agreer response:

"You could be a good athlete but you just won't stick to hard practice like living by training rules in order to run track. You really could be good but you don't accept responsibility for yourself and you let the wrong guys push you around and make your decisions for you."

Second rest period

Statement: "I don't see how anyone can like me."

Insert: Agreer response:

"Well, you brood and sulk like a kid everytime something doesn't go your way. How do you expect to get a date with Bill when you never smile and you clam up and draw into your shell when he's around."

Supporter response:

"Because of your friendliness to that blind student, he sees plenty of reasons for liking you and the reason you have so many friends is because of your good qualities - you act natural, you know how to work on cars and you've overcome a lot of your shyness this past year."

Third rest period

Statement: "I am afraid of what others think of me."

Supporter response:

"Do your roommates want to room with someone else next year? NO! The more people know you, the more they like you. They like your friendliness, your conscientiousness, and your willingness to help others."

Agreer response:

"You run yourself down so much we are beginning to believe that you are as lousy as you claim and when you are such a showoff in front of the girls it is so obvious."

Fourth rest period

Statement: "I feel like I am one great big failure."

Agreer response:

"I'll say you are a failure - you are no good in sports, can't dance, can't sing, can't socialize and can't get a date. You always wait till the last minute to start preparing - it's no wonder you do so poorly so often."

Supporter response:

"You weren't a failure when you got that date with Jo Ann after trying for a month. And you weren't a failure when you worked all summer to help out on your college expenses."

Fifth rest period

Statement: "At times I despise myself."

Supporter response:

"Do you despise yourself for working as a nurse's aid, or for the good speech you gave in class yesterday or for sacrificing your time to help your girlfriend with her school problems?"

Agreer response:

"You ought to because you don't live up to your own pledges like when you decided to start doing your own assignments instead of always copying someone elses' - that didn't last long, did it?"

APPENDIX F

Explanation of the Rating Task

(SUPPORTER)

In writing responses to the 20 negative statements of the Role-playing Test a subject played two roles. First, he pretended he had made the negative statement about himself. Secondly, he assumed the role of a close friend who was trying to convince him that he really wasn't as bad as the negative statement implied. While playing the latter role he was instructed to write down specific positive things about himself which a friend might refer to in trying to encourage him.

Instructions for Rating Verbal Responses

I am asking you to rate the degree of positiveness in the 20 written responses. There is possible rating of 1, 2, or 3, with 1 being the most positive and 3 being the least positive.

1. Give the total response to each statement only one of the three ratings.

2. Rate in the direction of the lowest numerical value possible. For instance, if there is any mention of a specific trait or accomplishment regardless of what else is written, the total response is given a rating of 1. If there are no specific references that would justify a rating of 1, then look for any instance in which one of the criteria for a rating of 2 is used and so on.

3. Criteria for each of the ratings are given below. Refer to the attached illustrations for the purpose of understanding the rating criteria.

4. Do not record any ratings directly on the Role-playing Test. Use the separate sheet provided for the ratings.

CRITERIA FOR RATING SUPPORTER VERBAL RESPONSES

RATING OF 1:

A. Specific reference to a personality trait, characteristic, quality, accomplishment or achievement.

RATING OF 2:

A. General reference to a personality trait, characteristic, quality, accomplishment or achievement.

B. Positive comparison with others.

C. A reassuring type of response.

RATING OF 3:

A. Explanations as to why the subject made the negative statement.

B. Advice or a command to do better.

C. Negative comparison with others.

D. Vague reasoning type of response.

E. Any response that does not meet the criteria for a rating of 1 of 2.

ILLUSTRATIONS OF RATING CRITERIA

RATING OF 1

A. SPECIFIC REFERENCE TO A TRAIT, CHARACTERISTIC, QUALITY, ACCOMPLISHMENT OR ACHIEVEMENT

I don't see how anyone can like me.

Because of your friendliness to that blind student, he sees plenty of reasons for liking you and the reason you have so many friends is because of your good qualities - you act natural, you know how to work on cars and you have overcome a lot of your shyness this past year.

I am afraid of what others think of me.

Do you get black-balled out of clubs? NO! The more people know you the more they like you - they like your friendliness, your conscientiousness and your willingness to help others.

RATING OF 2

A. GENERAL REFERENCE TO A TRAIT, CHARACTERISTIC, QUALITY, ACCOMPLISHMENT, ETC.

I haven't done anything to deserve the love of my parents.

The little things you do sometimes mean more to them than any big thing you've ever done. The little things are the things they will remember. Just being you, you deserve their love.

I am never satisfied with myself.

You should be satisfied with yourself because look how much you have already accomplished. If you want something hard enough you can have it as you've proven thus far by what you've done.

B. POSITIVE COMPARISON WITH OTHERS

I can see good points in you but not in me.

You have as many good points as anyone, maybe more than most. You are as honest as the next guy and work as hard as most do.

C. REASSURING TYPE OF RESPONSE

I am afraid of what other people think of me.

You shouldn't feel that way because the only way they could feel and be honest about it is to think the good things about you.

Sometimes I feel that the world would be a better place without me.

Removing yourself wouldn't make the world a better place because your presence can make the world a better place.

RATING OF 3

A. EXPLANATION AS TO WHY HE IS MAKING THE NEGATIVE STATEMENT

People are too polite to say what they really think of me.

You've just got an inferiority complex. People don't really think badly of you, you just imagine it because you are not satisfied with yourself. It is all in your mind.

I feel terribly unsure of myself most of the time.

That's natural to feel that way if you haven't prepared yourself - such as not studying well before a test.

B. ADVICE OR A COMMAND TO DO BETTER

I feel I don't have any likeable qualities.

Well improve yourself, get a haircut a little oftener and shine your shoes once in a while. If you really think you are doing something bad, turn over a new leaf. Just get some initiative.

Although I know it's not true, I sometimes feel that I am ugly.

If you feel you are ugly in appearance there is always something you can do about it. And if you are ugly to others in actions, then just think a while why you are and how you'd like others to treat you.

C. NEGATIVE COMPARISON WITH OTHERS

Already I've made a mess of my life.

With your background I really don't think you are aimed in that direction. Think of all the people who drink too much, have criminal records, are in the hospitals and undergo plastic surgery - you haven't made a mess of your life - you have no police record.

You haven't been around long enough to say something like that. You haven't been in any legal crisis or social crisis at all.

D. VAGUE REASONING TYPE OF RESPONSE

I am not fit to be around people.

Man, you've been around people all your life, and you're going to be around people all the rest of your life so you'd better get used to it. People have to be used to each other. That's what life is all about.

When I make a mistake it reminds me of all the mistakes I ever made.

You couldn't remember all the mistakes you've ever made. You know you wouldn't ever change anything if you had it to do all over again except maybe on a test paper.

EXPLANATION OF THE RATING TASK

(AGREER)

In writing responses to the 20 negative statements of the Role-playing Test a subject played two roles. First, he pretended he had made the negative statement about himself. Secondly, he assumed the role of a critical person who was agreeing with him that the negative statement was true. While playing the latter role he was instructed to write down specific negative things about himself which a person might refer to in criticizing him.

Instructions for Rating Verbal Responses

I am asking you to rate the degree of negativeness in the 20 written responses. There is a possible rating of 1, 2, or 3, with 1 being the least negative and 3 being the most negative.

1. Give the total response to each statement only one of the three ratings.

2. Rate in the direction of the highest numerical value possible. For instance, if there is any mention of a specific negative trait or failure, regardless of what else is written, the total response is given a rating of 3. If there are no specific references that would justify a rating of 3, then look for any instance in which one of the criteria for a rating of 2 is used and so on.

3. Criteria for each of the ratings are given below. Refer to the attached illustrations for the purpose of understanding the rating criteria.

4. Do not record any ratings directly on the Role-playing Test. Use the separate sheet provided for the ratings.

CRITERIA FOR RATING AGREER VERBAL RESPONSES

RATING OF 3:

A. Specific reference to a weakness, negative personality trait, a failure or mistake, a bad habit, or unacceptable behavior.

RATING OF 2:

A. General reference to a weakness, negative trait, a failure or mistake, a bad habit, or unacceptable behavior.

B. In a general way, saying the same thing as the stimulus statement.

RATING OF 1:

A. Advice as to how to improve.

B. Affirming the validity of the stimulus statement without reference to any negative quality or experience.

C. Reasoning as to why the subject is feeling what the stimulus statement expresses.

D. Any statement that does not meet the criteria for a rating of 3 or 2.

ILLUSTRATIONS OF RATING CRITERIA

RATING OF 3

A. SPECIFIC REFERENCE TO A WEAKNESS, NEGATIVE PERSONALITY TRAIT, A FAILURE OR MISTAKE, A BAD HABIT, OR UNACCEPTABLE BEHAVIOR.

I don't see how anyone can like me.

Well, you brood and sulk like a kid everytime something doesn't go your way. How do you expect to get a date with Bill when you never smile and you clam up and draw into your shell when he's around.

I am worthless.

Let's take the way you loaf around as much as possible. You go and play handball and let your wife work to put you through school and then when she asks you to help you are angry and complain.

RATING OF 2

A. GENERAL REFERENCE TO A WEAKNESS, NEGATIVE TRAIT, A FAILURE OR MISTAKE, A BAD HABIT, OR UNACCEPTABLE BEHAVIOR

I don't have any real reason to have any self-confidence.

Most certainly true, everytime you try out something by yourself you fail, you make a mess of things.

I can see good points in you but not in me.

You really have no outward show of any good qualities and you have never done anything really worthwhile.

B. IN A GENERAL WAY SAYING THE SAME THING AS THE STIMULUS STATEMENT

I wish I could regard myself as a worthwhile person.

You don't amount to much. You've nothing to show for your 18 years of life. It's making you unhappy.

I am worthless.

That is true, your existence does not have meaning. You have not reached a level of self-actualization.

RATING OF 1

A. ADVICE AS TO HOW TO IMPROVE

I can see good points in you but not in me.

Well that's obvious! You need to have a little more concern with yourself and other people before you will be able to find good points in yourself.

I am unhappy.

You wouldn't be unhappy, if you found a goal to work for that would help someone else besides yourself or a productive goal that would give you a sense of accomplishment.

B. AFFIRMING THE VALIDITY OF THE STATEMENT WITHOUT DIRECT REFERENCE TO ANY NEGATIVE QUALITY OR EXPERIENCE

I am unhappy.

No matter how many good things life has given you: health, a good family, more or less good economic situation, an opportunity for an education, you are not satisfied, you are unhappy.

Yes, I guess you are. You just don't seem to have time to do what you would like to do. It seems that working and studies keep you too busy. But would extra time actually be more profitably spent?

C. REASONING AS TO WHY THE PERSON IS FEELING WHAT THE STIMULUS STATEMENT EXPRESSES

I am unhappy.

You do seem unhappy at times because maybe you didn't get your way. You shouldn't let little things bother you so much. There is a bright side to every failure even if it isn't apparent at present.

I can see good points in you but not in me.

That isn't true, you have many good points. The problem might be that you just don't recognize them.

APPENDIX G

Samples of the Verbal Response Rating Form for Individual Judges and the Verbal Response Scoring Form for Individual Subjects on which Were Derived the Role-Playing Test Mean Rating ($\bar{X}$), the Modal Rating, and the Index of Interjudge Agreement ($\bar{X}\%$).

VERBAL RESPONSE SCORING FORM

Name _____ Group _____ $\bar{X}$ _____

	Sum	$\bar{X}$	Mode	Ratio	%
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Sum					
		$\bar{X}$		$\bar{X}\%$	
			1/5		
			2/5		
			3/5		
			4/5		
			5/5		

VERBAL RESPONSE RATING FORM

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Name _____

Judge _____

APPENDIX H

Analysis of Ratings of Verbal Responses

In order to gain some idea of the amount of agreement among judges in rating the verbal responses the following procedure was carried out.

A modal rating was derived from the five judges' ratings of each statement (possible ratings of 1, 2, or 3). Then for each statement, the percentage of interjudge agreement with the modal rating was derived. These percentages were summed for the total 20 statements for each S and averaged, resulting in an index of interjudge agreement for each S. These average percentages of agreement for each S were in turn averaged for the entire sample of Agreers and Supporters, resulting in one index of agreement for each group. For the Supporter verbal responses, the percentage of agreement between judges was .91, for the Agreer verbal responses, .81.

Consideration was given to the number of verbal responses for which ratings of both 1 and 3 were given which reflected either a great deal of ambiguity in the statement or confusion on the part of the judges or both. Very many sets of ratings of this nature would reduce the significance of a high percentage of agreement implied in the indexes of .91 and .81. Of the total 820 verbal statements written by the Agreer Ss there were 69 for which there were such split ratings. This represents .084 percent of the total (approximately 1 1/2 statements per S of the total 20 responses). Of the total 1160 Supporter verbal statements, only 31 (.027 percent) had split ratings. The verbal statements of the Supporter Ss were rated with more agreement than those of the

Agreer Ss, however, both indexes of agreement are high and the percentages of split ratings low. Apparently, the judges had very similar sets in approaching their task and had similar reactions to each statement.

The numerical values of all five judges' ratings for each of the 20 statements for each S were summed and averaged which resulted in an average rating for each S ranging from 1.00 to 3.00. These average ratings were used as indexes of amount of positiveness in the responses of Supporter Ss and amount of negativeness in the responses of Agreer Ss.

As a test of the degree of relationship between the amount of change in score from pretest to first posttest and the amount of positiveness in the Supporter verbal responses and the amount of negativeness in the Agreer responses, Pearson Product-moment correlations were first derived. The correlations between change in score and rating of verbal response for the Supporter group was .07 while for the Agreer group it was -.09. Neither of these coefficients was significant. The smallness of these coefficients indicated such a lack of relationship between these two variables that no additional analysis was deemed necessary.

With 1.00 being the most positive rating possible for each S's set of verbal responses, the Supporter Ss had an average rating of 1.16 (Low Supporters, 1.16, High Supporters, 1.15). With 3.00 being the most negative rating possible for each S's set of verbal responses, the Agreer Ss had an average rating of 2.68 (Low Agreers, 2.68, High Agreers, 2.68). In both treatment groups the Ss were consistently able to give the type of responses that were judged to reflect adequate involvement in the role-playing task.

APPENDIX I

Explanation of Table of Analysis of Variance

The analysis of variance of the three sets of test scores for the Supporter, Agreer, and Observer groups, making a test score N of 414, is presented in the analysis table below with five main effects and nine interactions. A sub-table provides two additional main effects and six interactions. Only two of the main effects were significant while not one of the interactions was significant. An explanation of each of the main sources of variance follows.

SEX: These was a sex difference in performance on the SCS. Males (78.04) achieved higher mean scores than females (69.31). The non-significant sex interactions indicate that this difference was not associated with any one group or test administration.

SUPPORTER vs OBSERVER (G_1): The Supporters and Observers received different treatments, but whatever effect these treatments had was not reflected in the three sets of test scores for each group when these scores were combined into a single distribution of group scores and a comparison of these two distributions was made.

SUPPORTER AND OBSERVER vs AGREER (G_2): Since the Supporter and Observer groups did not differ on the basis of the criteria selected to demonstrate difference should it occur, they were grouped together and their combined distribution of scores was compared with the distribution of Agreer scores for all three tests. This comparison resulted in a highly significant F. There was a 13.33 mean difference in score between the performance of the Agreer Ss and that of the combined group of Supporter and Observer Ss. The non-significant interactions between

PRELIMINARY ANALYSIS OF VARIANCE

Source	D/F	Sum of Squares	Mean Square	F	P
Between Cells	17	34579.0779	2034.0634	1.89	.05
Within Cells	396	425250.5784	1073.8651		
Total	413	459829.6563			

SUMMARY OF DETAILED ANALYSIS OF VARIANCE

Source	D/F	Sum of Squares	Mean Square	F	P
Sex (S)	1	7857.5200	7857.5200	7.32	.01
Supporter vs Observer (G_1)	1	1398.5377	1398.5377	1.30	N.S.
Supporter and Observer vs Agreer (G_2)	1	15365.0246	15365.0246	14.31	.001
1st Posttest vs Pretest (T_1)	1	9.4239	9.4239	---	
1st Post & Pretest vs 2nd Posttest (T_2)	1	1308.7935	1308.7935	1.22	N.S.
S X G_1	1	2846.0496	2846.0496	2.65	N.S.
S X G_2	1	0.6184	0.6184	---	
S X T_1	1	167.4819	167.4819	---	
S X T_2	1	337.3811	337.3811	---	
G_1 X T_1	1	148.9691	148.9691	---	
G_1 X T_2	1	258.8378	258.8378	---	
G_2 X T_1	1	3046.6993	3046.6993	2.84	N.S.
G_2 X T_2	1	1495.8424	1495.8424	1.39	N.S.
S X G X T	4	1853.8819	463.4705	---	
Error	396	425250.0784	1073.8638		

SUB TABLES OF ANALYSIS OF VARIANCE

Source	D/F	Sum of Squares	Mean Square	F	P
2 Posttest vs Pretest (T'_1)	1	1080.1304	1080.1304	1.01	N.S.
S X T'_1	1	13.9275	13.9275	---	
G_1 X T'_1	1	6.6804	6.6804	---	
G_2 X T'_1	1	733.6956	733.6956	---	
2 Post vs 1st (T''_1)	1	877.7717	877.7717	---	
S X T''_1	1	278.0036	278.0036	---	
G_1 X T''_1	1	92.5567	92.5567	---	
G_2 X T''_1	1	790.1775	790.1775		

groups and tests indicate that this difference is not associated with performance on any one administration but is contributed to by the performance on all three administrations.

FIRST POSTTEST vs PRETEST (T_1): The combined performance of all three treatment groups on the pretest was compared with their performance on the first posttest. Combining group performance within test administration is not meaningful in itself, but it does permit a later test of meaningful interactions.

FIRST POSTTEST AND PRETEST vs SECOND POSTTEST (T_2): Since the variances of the pretest and first posttest scores of all three groups did not differ, these two sets of scores were consolidated into one distribution and compared with the distribution of second posttest scores of all three groups.

Sub-tables

Taking the two degrees of freedom used in the table of analysis for the T_1 and T_2 test comparisons and using them for a different combination of test administrations, new tables of analysis of variance could be generated in which the remainder of each of these new tables would be identical to the present one. Rather than duplicate the major portion of the present table several times, sub-tables were added which show these additional comparisons of test administrations and the appropriate interactions associated with them.

SECOND POSTTEST vs PRETEST (T'_1): The combined second posttest performance of all three treatment groups was compared with that of the pretest. Such a comparison facilitated tests of meaningful interactions.

SECOND POSTTEST vs FIRST POSTTEST (T''_1): The combined second

posttest performance of all three treatment groups was compared with that of the first posttest.

Summary

For empirical interests the data for levels within treatment groups were combined and the test performance of treatment groups compared. However, the results of these comparisons were not relevant to cognitive dissonance theory. The Supporters increased in first posttest score, however this performance was not significantly different from that of the Observers who also increased. The Agreers decreased in first posttest score but when their mean decrease was compared to the combined mean performance of the Supporters and Observers it was not significantly different. When the performance of the Agreers on all three SCS administrations was compared to the combined performance of both Supporters and Observers on these three administrations, the Agreers differed significantly from the Supporters and Observers. The second posttest performance of all three groups was not different from their respective performances on the pretest.

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BIOGRAPHICAL SKETCH

Carl Clarke was born February 16, 1930, at Monroe, Louisiana. In June, 1948, he was graduated from Roosevelt Senior High School, Atlanta, Georgia. He was ordained to the ministry of the Christian Churches in April, 1950. In June, 1952, he received the degree of Bachelor of Arts from Atlanta Christian College. From 1953 until 1959, Mr. Clarke was minister of the Kaimuki Christian Church, Honolulu, Hawaii. In June of 1959, he received the degree of Master of Arts with a major in psychology from the University of Hawaii. He enrolled in the Graduate School of the University of Florida in the Spring of 1960 to work toward the degree of Doctor of Philosophy. Since then he has worked as a graduate assistant in the Department of Psychology and as a research assistant with the Mental Health Project of the Department of Student Health, was a United States Public Health Fellow for two years, and has been minister of the Hampton Christian Church, Hampton, Florida. He completed his year's internship in clinical psychology at the J. Hillis Miller Health Center, Gainesville, Florida, in August, 1964.

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This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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